MODERN ESSENTIALS

A Contemporary Guide to the Therapeutic Use of Essential Oils

Sixth Edition

New to Essential Oils? Start Here.

Quick Definitions:

Essential Oils: Substances created inside aromatic plants that are both volatile (they evaporate) and oil soluble (they easily mix with oils and fats).

Aromatic: Referring to plants that have an aroma.

Topical Application: Placing an essential oil directly on the skin or other surface of the body.

Aromatic Application: Often referred to as aromatherapy, aromatic application refers to inhaling an essential oil or its aroma.

Internal Application: Internalizing an essential oil, typically through the mouth.

Carrier Oil: A carrier oil refers to a vegetable oil, wax, fat, or other oil that an essential oil is mixed with. The carrier oil "carries" the essential oil and dilutes it so its effects can be spread over a larger area.

Neat: Refers to applying an essential oil by itself, without diluting it in a carrier oil.

Dilution: Refers to mixing an essential oil in a carrier oil so its effects are not as concentrated in one area.

Volatile: A substance that will evaporate when exposed to air is referred to as volatile. Volatile substances are typically light substances with small molecules.

Single Oil: A single oil is one type of oil (i.e., lemon, peppermint, lavender) by itself.

Oil Blend: An oil blend is a mixture of two or more single oils. Oils are typically blended to combine their individual properties or aromas.

Photosensitizing: Some essential oils (typically the citrus oils) contain natural substances called furanocoumarins. Furanocoumarins can react with ultraviolet light to create substances that may cause hyperpigmentation or burning on the skin. While essential oils with furanocoumarins have many beneficial properties, care should be taken after applying these oils on the skin to protect these areas from direct, prolonged ultraviolet light exposure for 1–3 days.

Oils and Water:

While pure, therapeutic-grade essential oils are generally safe and gentle to apply on the skin in the recommended amounts, a few oils such as oregano or cassia are very concentrated and may cause discomfort or heat when too much is applied directly on young or sensitive skin, or if they are accidentally placed into the eyes or other sensitive areas of the body. If this happens, ALWAYS use a vegetable oil such as fractionated coconut oil or olive oil to dilute the essential oil and relieve discomfort. NEVER use water to dilute the essential oil. Since water and oil don't mix, placing water over the essential oil can actually drive the oil deeper into the tissue, increasing the feeling of discomfort. Placing a carrier oil over the essential oil will cause the essential oil to mix with and be dispersed within the carrier oil, helping to relieve discomfort.

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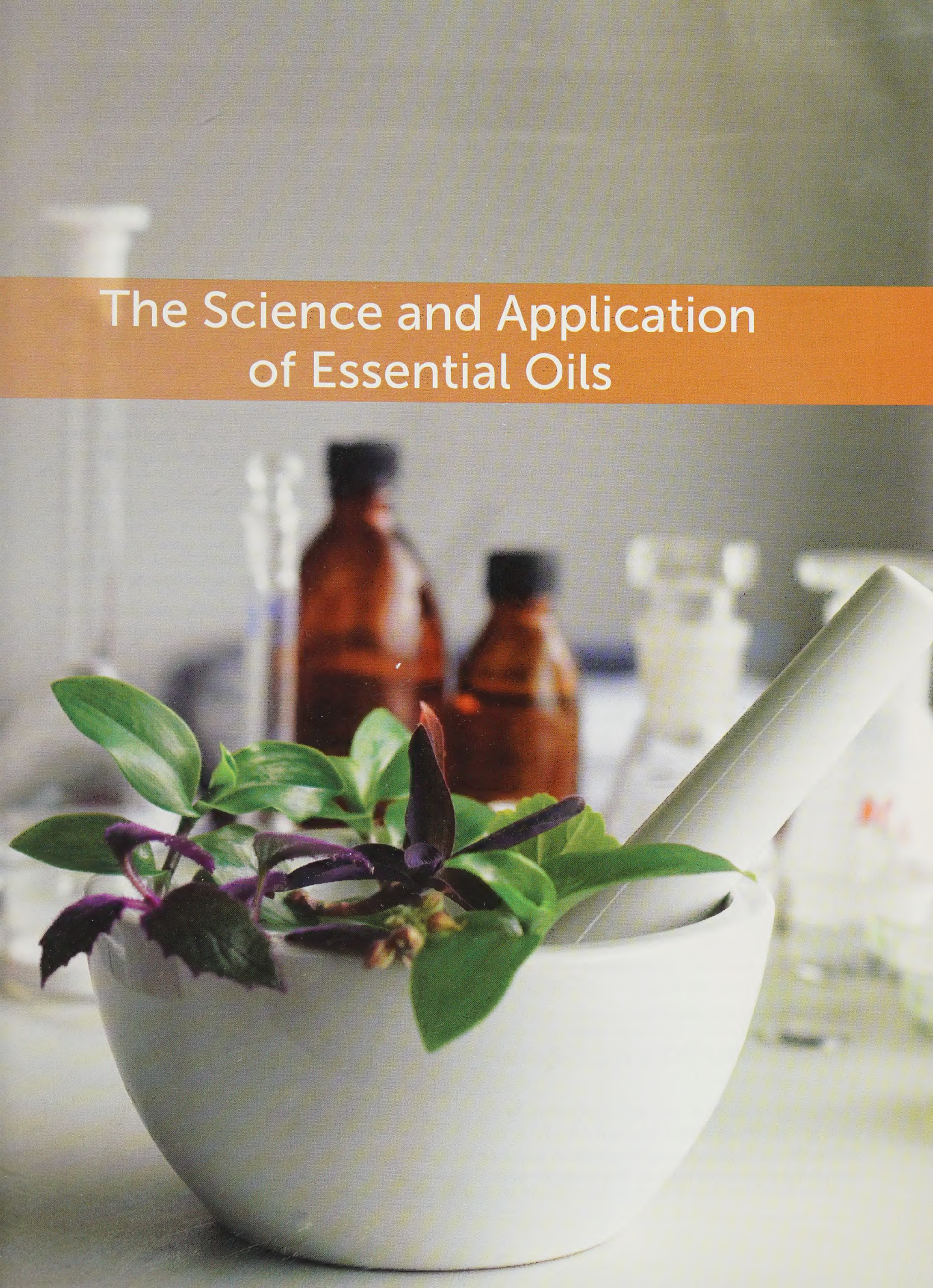
The Science and Application of Essential Oils



An Introduction to Essential Oils

What are essential oils?

Essential oils are the volatile liquids that are distilled from plants (including their respective parts such as seeds, bark, leaves, stems, roots, flowers, fruit, etc.). One of the factors that determines the purity and therapeutic value of an oil is its chemical constituents. These constituents can be affected by a vast number of variables: the part(s) of the plant from which the oil was produced, soil condition, fertilizer (organic or chemical), geographic region, climate, altitude, harvest season and method, and distillation process (Andradea et al., 2011; Sell, 2006; Pengelly, 2004). For example, common thyme, or thyme vulgaris, produces several different chemotypes (biochemical specifics or simple species) depending on the conditions of its growth, climate, and altitude (Thompson et al., 2003). High levels of thymol depend on the time of year in which the oil is distilled. If distilled during mid-summer or late fall, there can be higher levels of carvacrol, which can cause the oil to be more caustic or irritating to the skin (Hudaib et al., 2002).

As we begin to understand the power of essential oils in the realm of personal holistic health care, we comprehend the absolute necessity of obtaining pure, therapeutic-grade essential oils. No matter how costly pure, therapeutic-grade essential oils may be, there can be no substitute. Chemists can replicate some of the known individual constituents (Sell, 2006), but it would be difficult, if not impossible, to successfully recreate complete essential oils in the laboratory.

The information in this book is based on the use of pure, therapeutic-grade essential oils. Those who are beginning their journey into the realm of aromatherapy and essential oils must actively seek for the purest quality and highest therapeutic-grade oils available. Anything less than pure, therapeutic-grade essential oil may not produce the desired results and can, in some cases, be extremely toxic.

Why is it so difficult to find pure, therapeutic-grade essential oils?

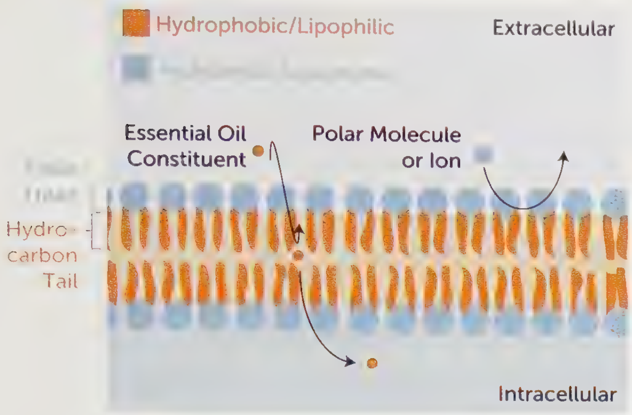
Producing the purest of oils can be very costly because it may require several hundred pounds, or even several thousand pounds, of plant material to extract one pound of pure essential oil. For example, one pound of pure melissa oil sells for thousands of dollars. Although this sounds quite expensive, one must realize that three tons of plant material are required to produce that single pound of oil. Because the vast majority of all the oils produced in the world today are used by the perfume industry, the oils are being purchased for their aromatic qualities only. Unnecessary high pressure and high temperature, rapid processing, and the use of chemical solvents are often employed during the distillation process so that a greater quantity of oil can be produced at a faster rate. These oils may smell just as good and cost much less, but they will lack most, if not all, of the chemical constituents necessary to produce the expected therapeutic results.

What benefits do pure, therapeutic-grade essential oils provide?

Essential oils embody the regenerating, protective, and immune-strengthening properties of plants.

Essential oil constituents are both small in molecular size and are also lipid soluble, allowing many of them to easily and quickly penetrate the skin (Onocha et al., 2011; Kohlert et al., 2000). The lipid solubility of essential oil constituents also allows the constituents to penetrate cell membranes, even if these membranes have hardened because of an oxygen deficiency (Onocha et al., 2011). In fact, essential oil constituents have the potential to affect every cell of the body within twenty minutes and then be metabolized like other nutrients (Jager et al., 1992; Jager et al., 1996).

Simple Diffusion Across the Cell Membrane

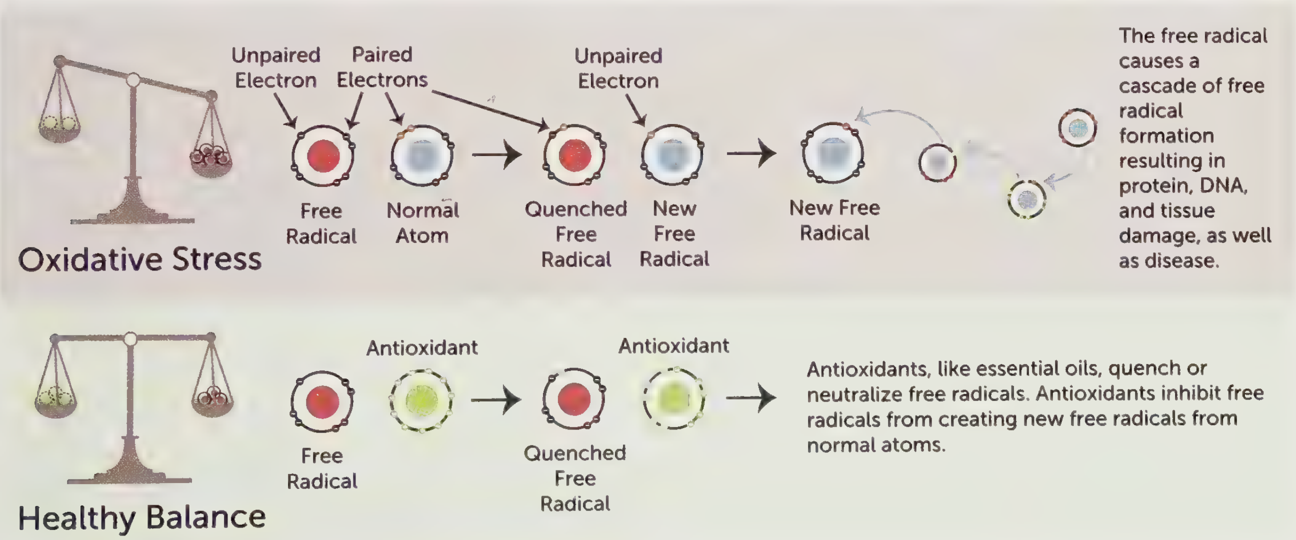


When water and oil are mixed together in a cup, they eventually separate, forming two layers. A similar phenomenon results in the formation of the cell membrane. The hydrocarbon tails of the lipid membrane form an oily barrier separating extracellular fluid from the intracellular fluid of the cell. Essential oils are able to penetrate the oily barrier because the barrier and the essential oil have similar lipophilic properties. Hydrophilic molecules, like ions, are reluctant to enter the lipophilic interior created by the hydrocarbon tails (Alberts et al., 2013). The smaller the molecule and the more lipophilic, or nonpolar, it is, the more rapidly it will diffuse across the membrane (Alberts et al., 2013).

Essential oils are very powerful antioxidants. Antioxidants neutralize or quench free radicals (Lobo et al., 2010). Free radicals are atoms with at least one unpaired electron and are created naturally by the body during metabolism. The body uses free radicals to perform important roles in gene transcription, cell signaling, and other regulatory functions (Fang et al., 2002). Free radicals can also be created by environmental factors such as pollution, radiation, and cigarette smoke. In these situations, free radicals outnumber the body's natural antioxidants and may cause cell injury and death (Fang et al., 2002). This imbalance between free radicals and antioxidants is called oxidative stress and occurs when antioxidants are unable to neutralize free radicals (Urso et al., 2003). If a free radical is not properly managed, it can cause "domino-like" damage by creating new free radicals out of normal atoms. Consequences of oxidative stress may include damage to proteins, DNA, and tissue, as well as the triggering of a number of human diseases (Fang et al., 2002; Lobo et al., 2010). Essential oils, omega-3 fatty acids found in fish oil, and certain vitamins have been shown to act as inhibitors of free radical generation (Fang et al., 2002) and can help diminish oxidative stress and harmful free radical production, helping the body fight disease and damage.

Many essential oil constituents have antibacterial, antifungal (Aguiar et al., 2014), anti-infectious, antimicrobial, antitumor, antiparasitic, antiviral, and antiseptic properties. Essential oils have been shown to destroy many harmful bacteria and viruses while simultaneously providing immune system support (Serafino et al., 2008).

Some essential oils can support the liver in detoxifying the blood. For example, rosemary essential oil constituents have been shown to induce enzyme activity in the liver,



The free radical causes a cascade of free radical formation resulting in protein, DNA, and tissue damage, as well as disease.

Antioxidants, like essential oils, quench or neutralize free radicals. Antioxidants inhibit free radicals from creating new free radicals from normal atoms.

Oxidative stress, an imbalance between free radicals and antioxidants, causes damage and disease. Free radicals, atoms with an unpaired electron, steal electrons away from normal atoms. Normal atoms are then transformed into free radicals. Essential oils and other antioxidants can inhibit free radical damage by donating an electron to a free radical. Antioxidants do not become free radicals because they are stable in either form.

suggesting a possibility of increased ability to remove toxins (Debersac et al., 2001).

Essential oils are volatile, aromatic, and possess powerful antimicrobial activity (Tyagi et al., 2010). When vaporized, some essential oils, including peppermint, produce stronger antimicrobial properties than when used in the liquid phase (Tyagi et al., 2010). This increased antimicrobial action occurs because vaporized essential oils combine with negative ions in the air for synergistic air purification and disinfection (Tyagi et al., 2010). Furthermore, essential oils fill the air with a fresh aromatic scent while destroying odors.

Essential oils help promote emotional, physical, and spiritual healing.

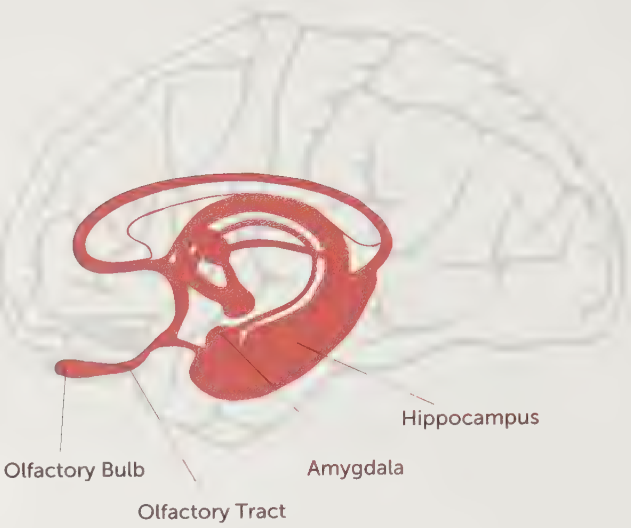
How long have essential oils been around?

From the beginning of early civilization, aromatic plants have been used for their therapeutic properties. Egyptian papyri and Chinese manuscripts describe the medicinal use of aromatics employed thousands of years ago. The Egyptians placed a great value on aromatic oils and even included thirty-five alabaster jars for the oils in King Tutankhamen's tomb. Similarly, the Greeks attributed the invention of perfumes to the gods and believed all aromatic plants to be of divine origin. Additionally, there are many references to aromatics, ointments, and incenses (such as frankincense, myrrh, rosemary, etc.) in the Bible and Torah. For more on the history of essential oils, please refer to the history section on page 11.

How do essential oils affect the brain?

The blood-brain barrier is the filtering mechanism between the circulating blood and the brain that prevents certain damaging substances from reaching brain tissue and cerebrospinal fluid. A common misconception is that all small molecules cross the blood-brain barrier. However, an astounding 98% of small molecule drugs cannot cross the blood-brain barrier (Pardridge, 2009). Dr. William M. Pardridge, an expert in blood-brain barrier research, determined that "The development of new drugs for the brain has not kept pace with progress in the molecular neurosciences, because the majority of new drugs discovered do not cross the blood-brain barrier" (2003). The ability to cross the blood-brain barrier is essential for the treatment of brain diseases and disorders. Chemical constituents known as sesquiterpenes—commonly found in essential oils such as frankincense and sandalwood—are known to be able to go beyond the blood-brain barrier (Wang et al., 2012; Zhang et al., 2009). Therefore, sesquiterpenes can directly interact with brain cells, unlike most pharmaceutical drugs, and can impact the brain therapeutically. In fact, sesquiterpenes are known to interact with neurotransmitter receptors, specifically glycine, dopamine, and serotonin receptors (Wang et al., 2012; Okugawa et al., 2000).

The Limbic System



The limbic system is composed of many brain structures, including the olfactory bulb and the amygdala.

Even if the chemical constituents of an essential oil cannot cross the blood-brain barrier, the essential oil can still affect the brain through activation of the olfactory bulb. Odors and emotions are processed in similar brain structures located in the limbic system (Pause et al., 2003). The limbic system is a group of related structures in the brain that are responsible for processing emotion, memory, and smell. The sense of smell is unique in the fact that "No other sensory system makes this kind of direct and intense contact with the neural substrates of emotion and memory, which may explain why odor-evoked memories are unusually emotionally potent" (Herz et al., 1996).

Also present in the limbic system of the brain is a gland called the amygdala. In the 1980s, it was discovered that the amygdala plays a major role in the storing and releasing of emotional trauma (LeDoux, 2003; LeDoux et al., 1988; Iwata et al., 1986; LeDoux et al., 1989). One way to stimulate this gland is with fragrance or the sense of smell (Kadohisa, 2013).

Therefore, essential oils can be a powerful key to help unlock and release emotional trauma.

What enables essential oils to provide such incredible benefits?

The benefits of an essential oil depend greatly on the oil's diversity of chemical constituents—and not only on the existence of specific constituents but also on their amounts in proportion to other constituents present in the same oil. Some individual oils may have hundreds of different chemical constituents (Miguel, 2010; Sell, 2006). Many of these constituents have yet to be identified. Although not everything is known about all the different constituents, most of them can be grouped into a few distinct families, each with some dominant characteristics. The essential oil constituent section beginning on page 30 provides greater insights into these constituent families.

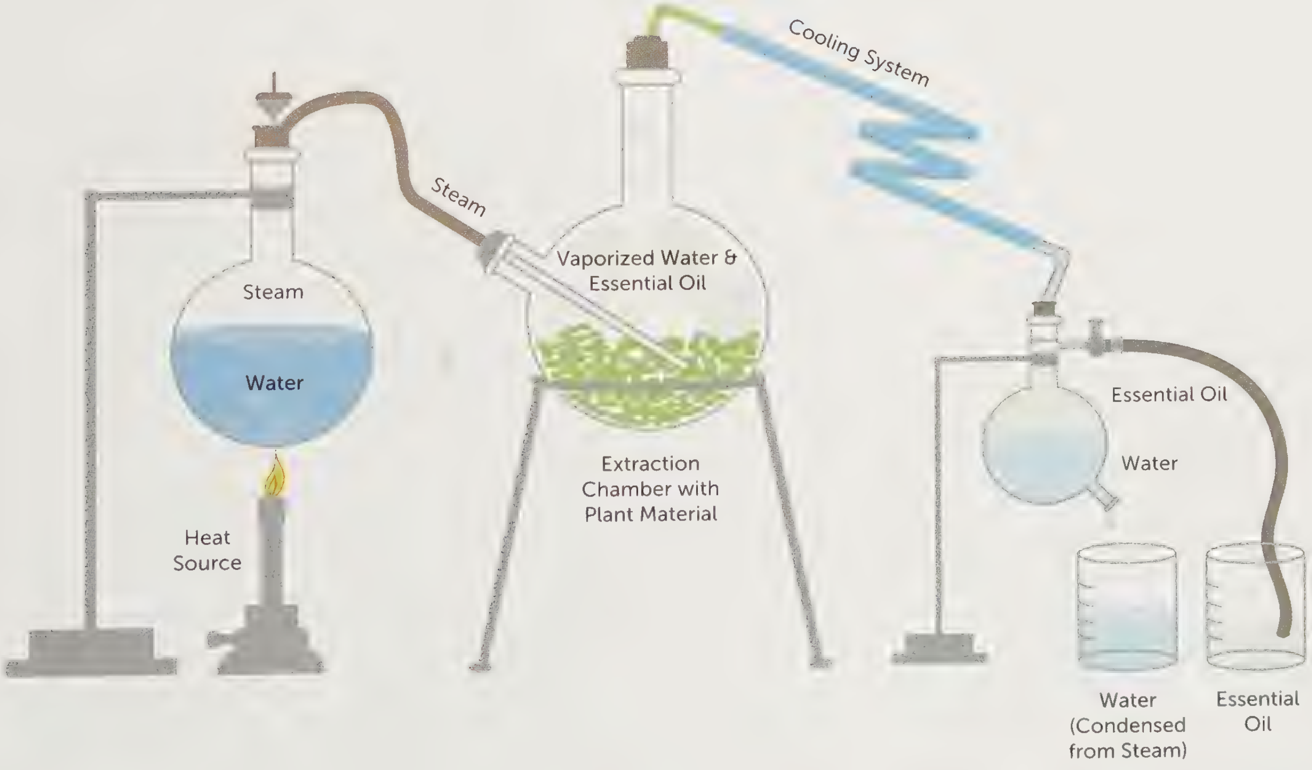
How are essential oils extracted?

There are two ways in which pure, therapeutic-grade essential oils are extracted:

—Steam Distillation

In order to understand why and how steam distillation works, it is important to be aware of two central characteristics of essential oils: First, essential oils are volatile. This means that they evaporate easily when exposed to the air. And second, essential oils are hydrophobic, which means that they do not mix with water.

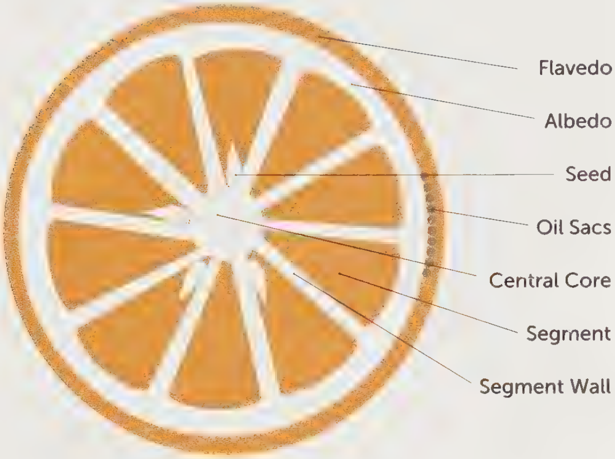
Steam distillation is the method most commonly used to extract essential oils; in fact, 93% of essential oils are extracted by steam distillation (Masango, 2005). In this method, plant material is placed in an extraction chamber and then steam (produced by boiling water in another chamber) is released into the bottom of the extraction chamber where the plant material is. As the steam passes through the plant material, both the steam and the essential oil rise to the top (this is because essential oils are volatile). The steam and essential oil are directed to another chamber where they are allowed to cool. Since essential oils are hydrophobic, as the oil/steam mixture cools, the essential oil rises to the top of the chamber while the water stays at the bottom. The essential oil can then be easily separated from the water.


Cooling System
Steam
Steam
Water
Heat Source
Vaporized Water & Essential Oil
Extraction Chamber with Plant Material
Essential Oil
Water
Water (Condensed from Steam)
Essential Oil

Schematic of the steam distillation of plant material to produce essential oil.

—Expression

Cold expression, or cold pressing, is the method most commonly used for extracting essential oils from citrus fruits. Mechanical pressure is used to "press" the oils out of the plant material—most often from the peel or rind.



Orange essential oil is contained in oil sacs found in the peel. The peel consists of a thin colored outer layer called the flavedo and a thicker fibrous inner layer called the albedo. The oil sacs are located in the flavedo of the peel. Expression requires the breaking of these oil sacs in order to release the essential oil they contain.

A Brief History of Essential Oils

Aromatic plants have long played an important role in human civilizations. They have been a part of religion, marriage ceremonies, dating and courtship, cosmetics, funerary services, medicine, and many other aspects of human life. Although the use of essential oils has evolved over the years, the basic principles remain the same. From the beginning of time, oils extracted from aromatic plants have been recognized as the most effective medicine known to mankind.

Egypt

The Egyptians are most often credited with being the first to use essential oils. Although there is still some debate, most historians believe that the oils used anciently were not identical to the steam distilled essential oils used today. Rather, the oils used by the ancient Egyptians appear to be animal fats and vegetable oils into which the aromatic essential oils from the plants had been extracted—typically by steeping the plant material in the hot oils or fats (Tisserand 22). Although not as concentrated as the steam distilled oils used at present, they were, nonetheless, used for their aromatic and therapeutic properties and are considered the precursors to pure essential oils.

—Portion of the Ebers Papyrus

For the Egyptians, the distinction between medicines and perfumes was not always clear. Often a single scented oil served both purposes. Common aromatics of the time included frankincense, myrrh, cedarwood, spikenard, juniper, coriander, bitter almond, henna, calamus, and origanum (Tisserand 22).

One of the oldest and best–preserved documents that we know of, the Ebers Papyrus, documents the Egyptians' use of frankincense and other aromatics in treating a variety of different ailments. This papyrus is thought to have been composed somewhere between 1553 and 1550 BC (Hill 44).

In 1922, archeologist Howard Carter and his team discovered the tomb of the ancient Egyptian king Tutankhamen. Despite evidence of some robbery and the tomb having been resealed, the majority of the original treasures remained in the tomb (Carter 33–44).

As Howard Carter surveyed the contents of the tomb, he discovered thirty-five alabaster jars that had been used to hold scented oils and unguents, but every single one of them had been emptied. It soon became evident to Carter that two separate robberies had taken place in the tomb—the first robbery was for precious metals, and the second robbery was for the oils and unguents (Carter 248-50). Carter marveled that in the presence of so many other precious objects the thieves would have chosen to steal the oils. The only thing Carter could conclude was that "The greases, or oils, that they contained had, no doubt, a far greater value in those days than possibly we imagine" (Carter 249).

China

The ancient Chinese are also believed to have been masters of the use of aromatic plants for healing. Some speculate that the Chinese may have begun studying aromatics at the same time as the Egyptians did—or even before. An ancient Chinese text "Pen T'Sao," which is believed to have been written by Emperor Shen Nung around 2500 BC, identifies medicinal uses for over 300 different plants (Petrovska 1–5). Chinese aromatherapists believed that extracting a plant's fragrance represented freeing the plant's soul (Keville, 2012).

The Chinese upper classes used fragrances lavishly during the T'ang dynasties, scenting their homes, clothing, temples, ink, paper, and cosmetics with aromatics. Huge statues of Buddha were even carved from fragrant camphor wood (Keville, 2012).

Greece

The Greeks learned a lot about perfumery from the Egyptians. When Herodotus and Democrates visited Egypt in the fourth century BC, they declared that the people were "masters of the art of perfumery" (Tisserand 25).

The Greeks believed all aromatic plants to be of divine origin, and they attributed the invention of perfumes to the gods (Tisserand 25).

The Greek physician Marestheus recognized that aromatic plants had either stimulating or sedative properties. He identified rose and hyacinth as refreshing and invigorating. Another Greek, Theophrastus, wrote that he wasn't surprised that perfumes should have medicinal properties when taking into consideration the other virtues of perfumes (Tisserand 27).

Without fully understanding the composition or chemical processes of essential oils, the Greeks were still able to profit from the antiseptic properties of the oils. Hippocrates used aromatic essences to fumigate the city of Athens to fight off the plague epidemic. Hippocrates also suggested that the key to good health is found in taking a daily aromatic bath and receiving a daily scented massage (Gawronski 142).

Rome

The Romans also used aromatics—even more lavishly than the Greeks did. They used aromatics to scent everything—their hair, their clothes, their beds, their bodies, their military flags, the walls of their houses, and everything else they could think of. They also used the oils and unguents in massage and baths (Tisserand 28).

The Romans, who were famous for their preoccupation with public health and for their public baths, were said to have embraced aromatherapy. Roman soldiers were also known to carry pouches filled with the seeds of aromatic plants on their military campaigns (Gawronski 142).

Israel

The value of aromatics to the ancient people of Israel is clearly evident throughout many historical texts. The writings of the Old Testament/Torah contain numerous references to aromatics, ointments, and incenses that were used by the ancient Israelites.

The New Testament also includes additional references to the use of aromatics and aromatic ointments by the Israelites, including the gifts of frankincense and myrrh given by the wise men who came to worship the Christ child (St. Matthew 2:11) and the use of spikenard for anointing (St. John 12: 3-5).

Arabia

Between 1000 BC and 400 BC, Arabia was the center of a lucrative spice trade route. During this time, frankincense was by far the biggest trade commodity and brought great wealth to Arabia. The trade route extended from the Dhofar region of Omar to Petra in Jordan—approximately 2400 miles—and was commonly referred to as the Frankincense Trail. This trail was used so many times that modern day satellite images still show faint marks on the ground where the camel caravans passed over (Hill 44–46).

The Arabs are also credited with being the first to discover steam distillation as a method of extracting essential oils from plants around 1000 AD. The Arabian physician 'Abu 'Ali al-Husian Ibn 'Abd Allah Ibn Sina, more commonly known as Avicenna, is said to be the inventor of this method of distillation. Avicenna distilled both essences and aromatic waters (Tisserand 30).

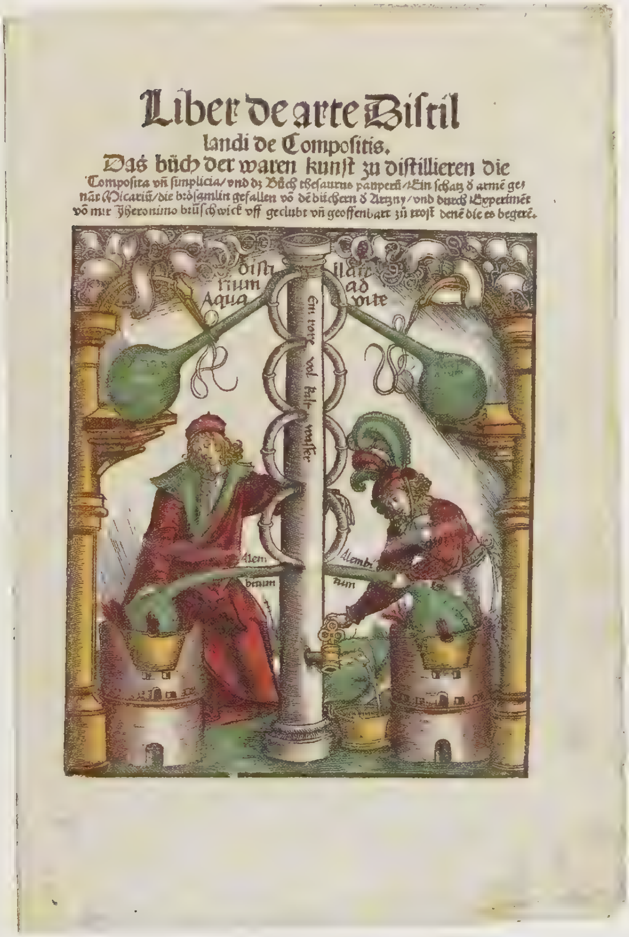
—Satellite image of the Frankincense Trail

Europe

With the invention of distillation, the use of aromatic essential oils in perfumes quickly migrated to Europe, and by the end of the twelfth century, the Europeans were distilling their own essential oils and manufacturing their own perfumes (Tisserand 30).

When the Great Plague became widespread in Europe, fumigations with aromatics were often employed to try and drive the sickness from the cities. It was found that those who were most in contact with aromatics, especially the perfumers, were virtually immune to the plague while so many died around them (Tisserand 38–39). In London, houses and workplaces were fumigated on a daily basis to try and keep away the plague. Frankincense was among the aromatics used (Porter 42).

By the 1500s physicians such as Hieronymus Brunschwig (who wrote one of the earliest printed books on essential oil distillation and use, *Liber de Arte Distillandi*) were distilling and using essential oils for their medicinal benefits.



Liber de arte Diſtil
landi de Compoſitis.
Das bůch der waren kunſt zů diſtillieren die
Compoſita vñ ſimplicia/vnd dz Bůch theſaurus pauperū/Ein ſchatz d armē ge/
nāt Micariū/die brôſamlin gefallen vō dē bůchern d Artzny/vnd durch Experimēt
vō mir Jheronimo brūſchwick vff geclubt vñ geoffenbart zů troſt denē die es begerē.

Aqua
diſti
llate
ad
vite

—*Title Page of* Liber de Arte Distillande, *by Brunschwig (c. 1512)*

The Reintroduction of Essential Oils

Essential oils regained popularity in the mid 19th century largely because of their desirable fragrances. As the cosmetic, soap, and food industries grew, so did the demand for essential oils to be used to scent and flavor these products (Başer et al. 184). These essential oils weren't necessarily of a therapeutic grade, but they did call back the attention to essential oils.

With the help of research and several key individuals, essential oils became recognized once again for their therapeutic and medicinal properties, and aromatherapy and pure, therapeutic-grade essential oils were reintroduced to the general public.

—René-Maurice Gattefossé

René-Maurice Gattefossé was a French chemist born in 1881. He is known as the "father of aromatherapy" because of his extensive research of essential oils and is credited with coining the term "aromatherapy" (Gattefossé 134).

Gattefossé is most famous for his work and personal experience with lavender essential oil. While working in his laboratory one day, there was an explosion that covered Gattefossé with "burning substances," which he extinguished by rolling on the grass outside. Gattefossé says of the experience, "Both my hands were covered with a rapidly developing gas gangrene. Just one rinse with lavender essence stopped 'the gastification of the tissue.' This treatment was followed by profuse sweating and healing began the next day" (Gattefossé 87). Gattefossé was only partly surprised by the healing power of the lavender essential oil because Gattefossé had been researching essential oils long enough to know of their powerful antiseptic and healing properties (Tisserand 41–42).

Although René-Maurice Gattefossé was not the first to use essential oils, nor was he the first to write about their therapeutic use, his vision was unlike that of any of his contemporaries. Gattefossé saw aromatherapy as a discipline of its own and recognized the great value of essential oils in healthcare. There were others researching essential oils at the same time as Gattefossé, but none of them equaled Gattefossé in their enthusiasm and dedication to the subject (Gattefossé v). Gattefossé was instrumental in helping essential oils to be seen for their therapeutic properties and not just for their pleasant smell.

—Jean Valnet

Jean Valnet, MD, was a French army physician and surgeon. During World War II in Tonkin, China, Valnet used his limited supply of essential oils in the treatment of injured soldiers and was very satisfied with the consistency of the results he achieved (Valnet 66).

Valnet recognized the drawbacks of modern medications and antibiotics with their harmful side effects and the need to continually increase their dosages as the body's tolerance increases (Valnet 49–50), and for this reason he turned to essential oils as a natural alternative.

Valnet very strongly believed that there was always something more that could be done for a patient before condemning him or her to death (Valnet 227), and essential oil use was that "something more" that Valnet turned to.

—Robert B. Tisserand

Robert Tisserand searched for 20 years to obtain a copy of *Gattefossé's Aromatherapy*. After searching for so long, Tisserand began to doubt that the book even existed (Gattefossé v). Once he found the book, he edited it and added his own introduction to the 1993 printing. He calls *Gattefossé's Aromatherapy* the "missing link for 20th century aromatherapy" (Gattefossé vi).

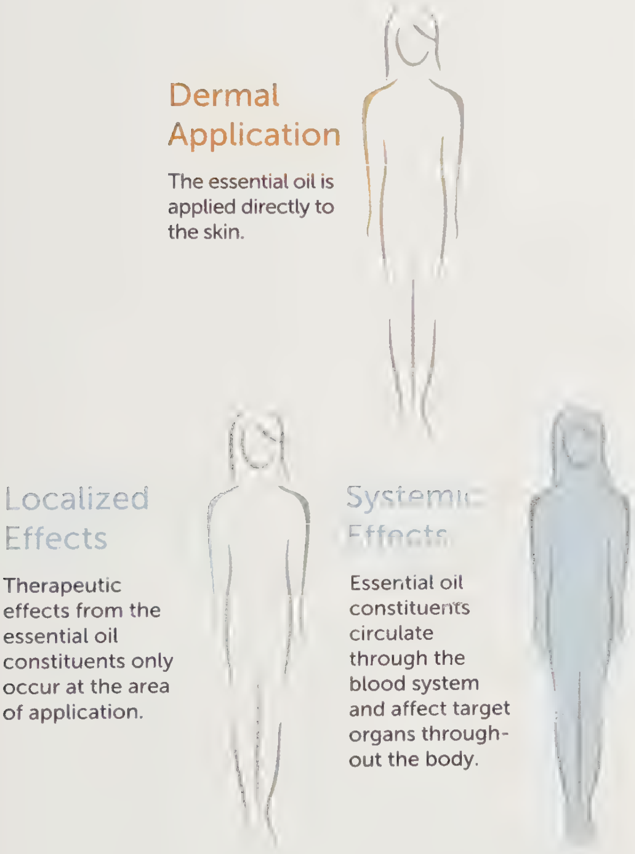
Tisserand's own research delves into the history, use, properties, and therapeutic benefits of essential oils. Tisserand was also very instrumental in making information about the therapeutic use of essential oils available to the general public.

Essential Oils Today

Today, scientists, physicians, researchers, and many individuals concerned with managing their own personal health are just beginning to explore and discover some of the amazing benefits pure, therapeutic-grade essential oils have to offer.

How Essential Oils Interact with the Body

With the help of key individuals like René-Maurice Gattefossé, Jean Valnet, and Robert Tisserand, essential oils have become recognized once again for their therapeutic and medicinal properties. Research on essential oils has increased exponentially since the 1990s and continues to increase each year. This section includes recent research detailing the pharmacological effects essential oils have on the body, including the following: the impact of the route of administration and chemical properties of essential oils, systemic and localized therapeutic mechanisms, and specific interactions occurring with oral administration. Understanding how an essential oil interacts with the body is crucial for interpreting its therapeutic effects and developing a personal holistic health regime.



The essential oil is applied directly to the skin.

Therapeutic effects from the essential oil constituents only occur at the area of application.

Essential oil constituents circulate through the blood system and affect target organs throughout the body.

—Figure 1. Effects of Dermal Application Applying essential oils to the skin can result in localized or systemic effects.

Route of Administration and Chemical Properties Can Influence the Therapeutic Effect of an Essential Oil

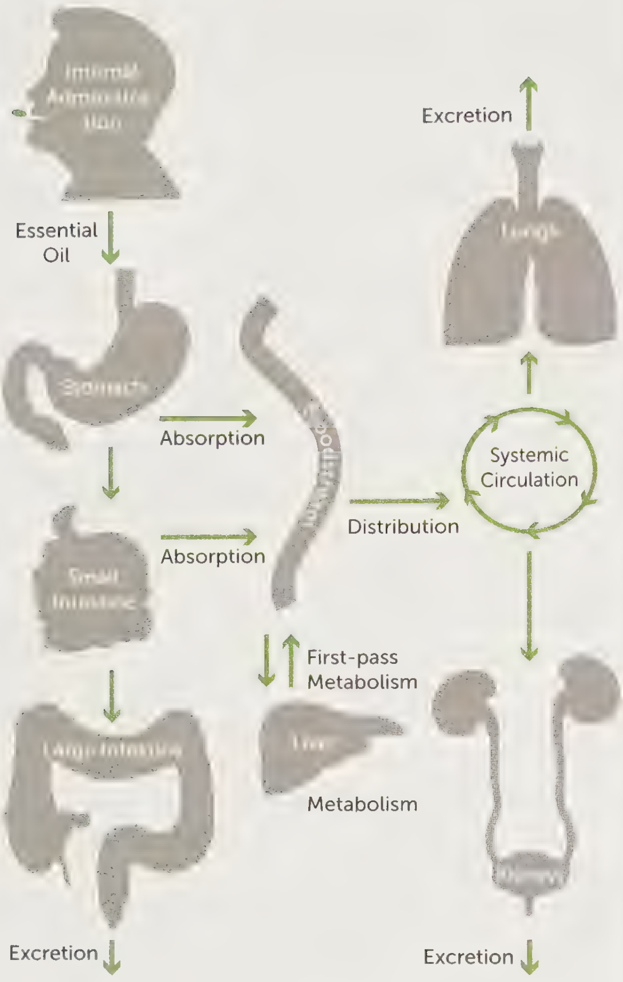
Use of essential oils can elicit either systemic (whole body) therapeutic effects or localized therapeutic effects depending on the type of administration utilized (i.e. topical, aromatic, or internal) and the chemical constituents of the essential oil. Because essential oils are composed of hundreds of chemical constituents with different properties, a single essential oil has the potential to produce both systemic and localized effects simultaneously.

Application of essential oils to the skin can cause systemic or localized effects (See Figure 1). Localized effects pertain to the specific area where the essential oil was applied. Systemic effects occur when some or all of the essential oil constituents cross the epidermal layer of the skin and are absorbed into the capillaries of the tissues below (also called transdermal absorption).

Aromatic and internal applications usually result in systemic effects but can also cause localized effects. For example, an inhaled essential oil constituent can produce localized effects on lung tissue, an ingested constituent can produced localized effects on the stomach, or in both cases the constituent can be absorbed into the blood and result in systemic circulation.

Research has led to the finding that the mode of application can drastically influence the effect an essential oil has on the body. For example, when East Indian sandalwood essential oil was applied to the skin of humans, a sedative effect on the body was observed (Hongratanaworakit et al., 2004). The massage of sandalwood oil caused the subject's blood pressure and blink rate to decrease, indicating a decrease of physiological arousal (Hongratanaworakit et al., 2004). The subjects were supplied with pure air by breathing masks to prevent inhalation of the oil (Hongratanaworakit et al., 2004).

On the other hand, when the same essential oil was delivered via inhalation, a stimulatory effect occurred (Heuberger et al., 2006). Signs of increased autonomic nervous system stimulation included increased pulse rate and skin conductance level (Heuberger et al., 2006). The contradicting bioactivity of this essential oil suggests that the therapeutic properties of essential



—*Figure 2. Systemic Cycle*
Overview of the absorption, distribution, metabolism, and excretion of essential oils involved in whole-body therapeutic effects

oils may depend on the administration route (Heuberger et al., 2006). This groundbreaking research suggests that using different routes of administration can expand the therapeutic potential of an essential oil.

In all cases, the chemical properties of an essential oil component influence the therapeutic action of an essential oil. There is evidence that some chemical constituents of essential oils are always systemically absorbed, independent of the route of administration used (Kohlert et al., 2000). For example, in the above studies, some East Indian sandalwood essential oil constituents were systemically absorbed when administered through inhalation or the skin.

Systemic and Localized Therapeutic Effects Produce Different Actions on the Body

A systemic response involves the following processes: absorption into the blood system, whole body distribution via the circulatory system, metabolism by the liver, and excretion orchestrated by the kidneys, lungs, and intestines (See Figure 2) (Turley, 2009). Contact with an essential oil can elicit a systemic response because many of the chemical constituents composing essential oils are molecularly small and have the ability to permeate cell membranes (Kohlert et al., 2000).

Systemic absorption is not required for an essential oil to be effective, and in some cases the use of an essential oil will not include absorption into the circulatory system. Instead, the essential oil will exert effects at the point of first contact. Such a localized response can occur topically or even internally.

An Overview of the Processes Involved in the Systemic Cycle

An analysis of the systemic cycle reveals the many prospective interactions an essential oil chemical constituent can have with the cells of the body. Since essential oil constituents display different actions on the body and a single essential oil can have hundreds of constituents, it is impossible to give a single mechanism to explain the therapeutic effect of all essential oils. Instead, an overview of the systemic cycle can describe the general cycle of essential oil constituents in the body.

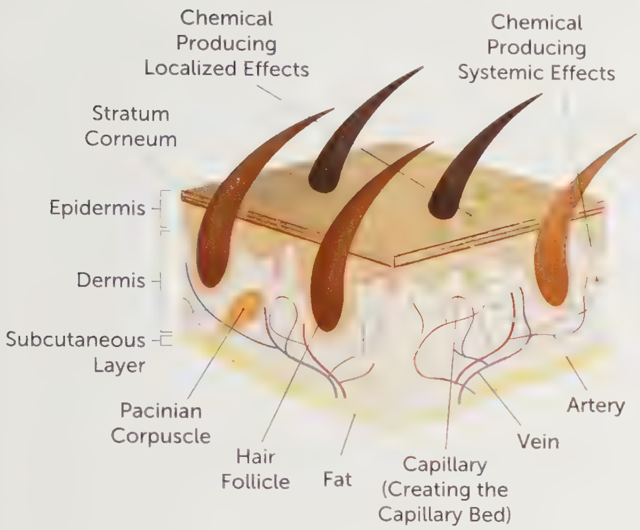
—Absorption

Following systemic administration of an essential oil, the chemical constituents quickly dissolve in the tissue fluids of the body, pass through the walls of nearby capillaries, and are absorbed into the blood (Turley, 2009).

The most prevalent tissue fluid of the body is interstitial fluid. Interstitial fluid surrounds the outside of cells, delivers nutrients to cells, and removes cellular waste. Interstitial fluid is mainly composed of filtered water from the blood (Wiig et al., 2012). Other tissue fluids include saliva in the mouth and gastric juice in the stomach (Turley, 2009). Essential oil constituents dissolved in tissue fluid may enter cells of that tissue.

After absorption into the tissue fluids, systemic action requires absorption into nearby capillaries. Some cells, such as epidermal cells creating the

Diagram of Dermal Administration


Chemical Producing Localized Effects
Chemical Producing Systemic Effects
Stratum Corneum
Epidermis
Dermis
Subcutaneous Layer
Pacinian Corpuscle
Hair Follicle
Fat
Capillary (Creating the Capillary Bed)
Vein
Artery

—*Figure 3. Diagram of Dermal Administration*
The epidermis is the area where essential oils are topically administered. Just beneath the epidermis reside veins and arteries in the dermis layer. Between these two layers, a highly lipophilic membrane, the stratum corneum, exists to act as a major barrier to drug absorption. A localized effect occurs when the essential oil dissolves into the tissue fluids of the epidermis without reaching the dermis layer. Dissolution into the dermis layer tissue fluids, housing the large capillary bed of the circulatory system, results in systemic circulation (Margetts et al., 2007).

outer most layer of the skin, do not have direct access to blood capillaries (See Figure 3). On the other hand, dermal cells located in the dermis of the skin are surrounded by capillaries. A lipophilic membrane called the stratum corneum forms a barrier between the skin surface and the capillary-rich dermis of the skin. This membrane acts as a barrier to systemic absorption. If an essential oil constituent can penetrate the stratum corneum, it will dissolve in the dermis tissue fluid, be absorbed into the capillaries, and circulate in the blood. Once an essential oil constituent enters a capillary, it has entered the circulatory system and can be distributed to other tissues in the body.

If an essential oil constituent cannot cross the stratum corneum, it will dissolve in the epidermis tissue fluids but never reach the dermis capillaries (Turley, 2009). Failure to cross the stratum corneum produces a local therapeutic effect at the site of application.

Epithelial cells also act as a barrier to systemic absorption internally. Epithelial cells line the surfaces of the body and protect the body's internal environment. The gastrointestinal barrier, the barrier lining the stomach and intestines that separates the external and internal environment of the body, is composed of a layer of epithelial cells (Johnson et al., 2012). The epithelial cell membranes are tightly joined together. Therefore, to enter the internal environment of the body, a chemical must penetrate the epithelial cells. In general, once a chemical breaches the epithelial cells, it has unimpeded access to systemic circulation (Bowen, 2006). Similarly, the lungs and other organ systems possess epithelial barriers. Properties that allow an essential oil constituent to cross the skin's stratum corneum, like small molecular size and ability to cross cell membranes, will also aid the constituent in breaching the epithelial cell barriers in the body's internal organs.

—Distribution

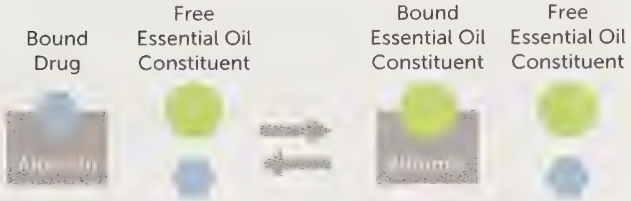
After absorption into the blood, the chemical constituents are distributed throughout the body via the circulatory system. The circulatory system includes the heart, vessels, and blood and is responsible for providing nutrients and oxygen to cells and removing waste from the body's tissues. Since essential oils are lipophilic (insoluble in water) and blood is primarily composed of water, essential oils must associate with and be transported by blood lipids in order to be distributed by the circulatory system (Bowles, 2003). Such lipids include plasma proteins like albumin (see below for more information).

Once the constituents are circulated in the blood, they are distributed from the blood into other body fluids and tissues (Kohlert et al., 2000).

—Plasma Proteins

Once the chemical constituents of an essential oil enter the circulatory system, some of the chemicals bind to soluble plasma proteins. The most common soluble protein is albumin. If a constituent has a high affinity for albumin, then it readily binds to albumin, displacing other bound chemicals. Bound constituents are therapeutically inactive until displaced and unbound, meaning the therapeutic effect of an essential oil will not occur if the constituent is bound to albumin. A high affinity for albumin causes an extended but low concentration dose of the chemical. Most molecules found in essential oils have a low affinity for albumin, indicating that the essential oil stays active in the circulatory system at high unbound concentrations until the chemical is rapidly cleared from the body (K. Wang et al., 2000).

Many pharmaceutical drugs have been shown to have a high affinity for albumin. Essential oil constituents that interact with albumin may displace bound drugs (See Figure 4). Therefore, essential oils may affect pharmaceutical drugs through albumin interactions (Tisserand et al., 2014). For more information, see Table 1 on page 20, which lists possible drug interactions with essential oils. Speak to a healthcare professional if any unusual or intense side effects occur while taking drugs and essential oils simultaneously. These side effects may be due to interactions with albumin.


Bound Drug
Free Essential Oil Constituent
Bound Essential Oil Constituent
Free Essential Oil Constituent
Albumin
Albumin

—Figure 4. Albumin
Albumin temporarily inactivates bound constituents. Free essential oil constituents can displace bound drugs and vice versa (Adapted from Tisserand et al., 2014).

—Blood-Brain Barrier

Entering the circulatory system does not guarantee that a chemical will diffuse into every organ or tissue in the body. Instead, most chemicals absorb primarily into a target organ or are not able to absorb into specific organs. For example, the brain is guarded by a barrier of tightly placed cells lining its blood vessels called the blood-brain barrier. The blood-brain barrier makes it very difficult for substances to pass from the circulatory system to brain fluid and tissue. The blood-brain barrier protects the brain from foreign substances, harmful pathogens, and waste but allows nutrients (such as water, glucose, and amino acids) to pass. The blood-brain barrier is necessary for protecting the brain but diminishes the therapeutic effect of many drugs. For example, Parkinson's disease results in low neurological concentrations of a neurotransmitter called dopamine. Intake of dopamine, however, will not elevate the low concentration because the blood-brain barrier blocks the diffusion of dopamine. Instead, doctors must administer a smaller precursor to dopamine called levodopa (which is naturally converted into dopamine once it crosses the blood-brain barrier) to increase dopamine levels in the brain. Levodopa, due to its small molecular size, is allowed to cross the blood-brain barrier. However, large dosages of levodopa must be given because most of the levodopa is broken down before it can reach brain tissue.

Chemical constituents known as sesquiterpenes—commonly found in essential oils such as frankincense and sandalwood—have demonstrated an ability to go beyond the blood-brain barrier (L. Wang et al., 2012; Zhang et al., 2009). In fact, sesquiterpenes are known to interact with neurotransmitter receptors, specifically glycine, dopamine, and serotonin receptors (L. Wang et al., 2012; Okugawa et al., 2000). These properties are very intriguing to researchers, as it means these constituents may have the potential to help with the treatment of neurological disorders such as Alzheimer's disease, Lou Gehrig's disease, Parkinson's disease, and multiple sclerosis.

—Pregnancy

Since the use of pharmaceutical drugs during pregnancy is limited due to potential negative effects, essential oils can be a relief during pregnancy. Essential oils taken during pregnancy can cross the placenta and enter fetal blood (Maickel et al., 1973; Tisserand et al., 2014). For this reason, it is typically recommended that any essential oils used during pregnancy be used in smaller amounts, often heavily diluted in a carrier oil.

—Metabolism

Essential oils are composed of many different compounds. Each compound metabolizes at a different rate. The liver metabolizes essential oils by transforming each compound of an essential oil into its metabolite form. Metabolites are formed as part of the natural process of degrading and eliminating compounds. Most metabolites have different biological actions and properties than their parent chemical constituent (Tisserand et al., 2014). For example, metabolites typically become less lipophilic than their precursors (Tisserand et al., 2014). Essential oil metabolites can be more, less, or equally biologically active as their original constituents. Some metabolites, as opposed to the original chemical constituents, may be responsible for producing therapeutic effects attributed to essential oils (Muhlbauer et al., 2003). Therefore, the therapeutic effects of an essential oil may take place before or after metabolism, and the potential effects from a single oil may present at separate times.

Decreased functionality in the liver causes decreased metabolic breakdown, allowing the active compounds to remain in the circulatory system for prolonged amounts of time, thus exposing the body to more active compounds than normal. For this reason, those with liver disease and the elderly with degenerating organs should be given a reduced dose of essential oil (Turley 2009; Tisserand et al., 2014).

—Elimination

The main orchestrators of elimination are the kidneys and the lungs. Studies using intravenous administration of terpenes (essential oil constituents) suggest that the chemical constituents can be distributed to body tissue within minutes and eliminated from the body within hours (Kohlert et al., 2000). In order to obtain the best therapeutic results, it is recommended that a small amount of oil be used regularly on a daily basis, rather than a large amount used sporadically. Due to the fast elimination of essential oils, it is unlikely that the oils accumulate in fat or other biological tissues (Kohlert et al., 2000). Furthermore, continual use will not result in toxic effects because the essential oils do not accumulate in the body.

Interactions to Consider When Using Essential Oils Orally

—First-pass Metabolism

Only essential oil constituents absorbed through the digestive system are affected by first-pass metabolism. Sublingual, transdermal, inhalation, and rectal routes of administration avoid the first-pass effect because essential oil constituents are directly absorbed into systemic circulation (Brenner et al., 2009).

Essential oils ingested orally travel through the portal vein to the liver before entering systemic blood circulation. Once a chemical enters the liver, it may be processed and altered, resulting in the formation of metabolites. This preliminary formation of metabolites is called the first-pass metabolism and results in the reduction of the concentration of a chemical available during systemic circulation. Most metabolites have different biological properties and activity than their parent chemical constituents (Tisserand et al., 2014). Therefore, oral administration of essential oils may result in a different therapeutic effect than other routes of administration because the metabolites, not the original constituents, may be circulating the blood and interacting with the body.

For example, the chemical constituent coumarin (found in the following essential oils: bergamot, black pepper, clary sage, grapefruit, lavender, lemon, lime, melissa, and peppermint) is greatly reduced by first-pass metabolism, and only two to six percent of coumarin reaches systemic circulation in its intact form (Ritschel et al., 1979). This reduction of chemical constituents occurs because a substantial proportion of essential oil constituents are chemically transformed into metabolites during first-pass metabolism (Tisserand et al., 2014).

—Fatty Meals

It is important to understand that the absorption of an essential oil into the circulatory system via the oral method can vary depending on the presence of food, rate of stomach emptying, stomach acid, and intestinal transit (Brenner et al., 2009). In particular, large or fatty meals can delay the rate of essential oil absorption (Bushra et al., 2011). Furthermore, any food in the GI tract can reduce absorption by thirty to eighty percent (Turley, 2009). However, in some cases, such as when you are trying to increase stool bulk or relieve constipation, a localized effect is preferred. In this case, eating a meal in concert with essential oil intake will help to decrease systemic absorption and cause localized therapeutic effects.

Essential Oil Constituents

An essential oil is like a toolbox, and its chemical constituents are like diverse tools with different functions and uses. Not all tools work the same, but all are necessary to build a house. Similarly, not all essential oil constituents have the same function, but they all cooperate in achieving a desired therapeutic effect. As this section shows, the possibilities of systemic or localized effect, metabolism, and plasma protein interaction of essential oil constituents create a variety of opportunities for the constituents to interact with the body. Furthermore, research has shown that different routes of administration can produce different therapeutic effects. Understanding essential oil constituent interactions with the body will help individuals interpret their own therapeutic responses to essential oils.

Table 1: Possible Drug Interactions with Essential Oils

Drugs	Essential Oils (EO)	Route of EO Administration	Possible Interactions
Warfarin (anticoagulant)	Birch, wintergreen	All (Topical, Aromatic, Internal)	Inhibits platelet adhesion and intensifies blood thinning
CYP2B6 (liver metabolizing enzyme) substrates	Melissa	Internal	Inhibits CYP2B6, which could enhance drug action
	Lemongrass	All (Topical, Aromatic, Internal)	
Aspirin (antiplatelet)	Birch, cassia, cinnamon, clove, fennel (sweet), marjoram, oregano, patchouli, thyme, wintergreen	Internal	Inhibits platelet adhesion and intensifies blood thinning
Heparin (anticoagulant)			
Warfarin (anticoagulant)			
Monoamine oxidase inhibiting antidepressants (including isocarboxazid, moclobemide, phenelzine, selegiline, tranylcypromine)	Clove	Internal	Clove oil constituents inhibit monoamine oxidase enzymes, which could affect blood pressure and cause tremors or confusion
Pethidine (opioid analgesic)	Clove	Internal	Increase of serotonin, which could cause agitation, delirium, headache, convulsions, and/or hyperthermia
Selective serotonin reuptake inhibitors (including citalopram escitalopram, fluoxetine, paroxetine, sertraline)	Clove	Internal	Increase of brain serotonin levels, which could cause vomiting, nausea, increased body temperature, hallucinations, etc.
Indirect sympathomimetic drugs (including ephedrine, amphetamine)	Clove	Internal	Possible hypertension, increased heart rate, and arrhythmias
Antidiabetic drugs (including glibenclamide, tolbutamide, metformin)	Cassia, cinnamon, dill, fennel (sweet), lemongrass, marjoram, melissa, oregano	Internal	Constituents of these oils influence blood sugar levels and may cause hyperglycemia or hypoglycemia
Dermal medications (including drug patches)	Use caution with all essential oils	Topical	Essential oils can enhance skin absorption of drugs and increase blood plasma levels, resulting in a delivered dose higher than needed

The above information was adapted from Essential Oil Safety by Robert Tisserand and Rodney Young (2014, p. 58-59). Only essential oils included in the Single Essential Oils section of this book are listed in this table. Other essential oils not included in this book may produce similar drug interactions.

Essential Oil Interactions with Drugs

Essential oil interactions with drugs may be additive, synergistic, or antagonistic (Abebe 2002). For this reason, it is important to discuss with your healthcare professional possible interactions between essential oils and prescribed drugs.

One possible side effect of using essential oils with drugs is an increase in drug side effects. This would occur if an essential oil constituent were an inhibitor of the drug's metabolizing enzymes (Tisserand et al., 2014). Thus, the prescribed drug would not be metabolized or excreted, blood-drug levels would rise, and a higher concentration of the prescribed drug would be delivered to target organs.

Table 1 has been provided to give an example of some of the possible interactions that could occur with the administration of both essential oils and prescription drugs. Only essential oils included in the Single Essential Oils section of this book are listed in this table. Other essential oils not included in this book may produce similar drug interactions. Always consult with a medical professional to ensure that other drugs (not listed) will not present unwanted interactions.

Essential Oils As Enhancers

To enhance the absorption of other chemicals, pharmaceutical companies and researchers have harnessed the skin permeation capabilities of certain essential oils. Essential oils—like sweet basil, eucalyptus, and peppermint—can be applied to the skin in conjunction with pharmaceutical drugs to increase skin absorption of the drugs (Fang et al., 2004; Abdullah et al., 1996). For example, eucalyptus oil enhanced nicotine skin absorption in animal studies (Tisserand et al., 2014). These essential oils act as vehicles to help other drugs penetrate the stratum corneum, enter the circulatory system through dermal capillaries, and produce systemic actions. The blending or layering of these essential oils with other essential oils may also increase skin permeation and systemic effects.

Essential Oil Synergy

The tradition of combining essential oils is increasingly being supported by modern research. Essential oils have displayed interesting synergistic effects both between different oils and within the chemical constituents of a single oil. Synergy within a single oil occurs when one chemical constituent enhances the properties of other components. Furthermore, synergy between oils has led to the development of oil blends and layering techniques with increased therapeutic action.

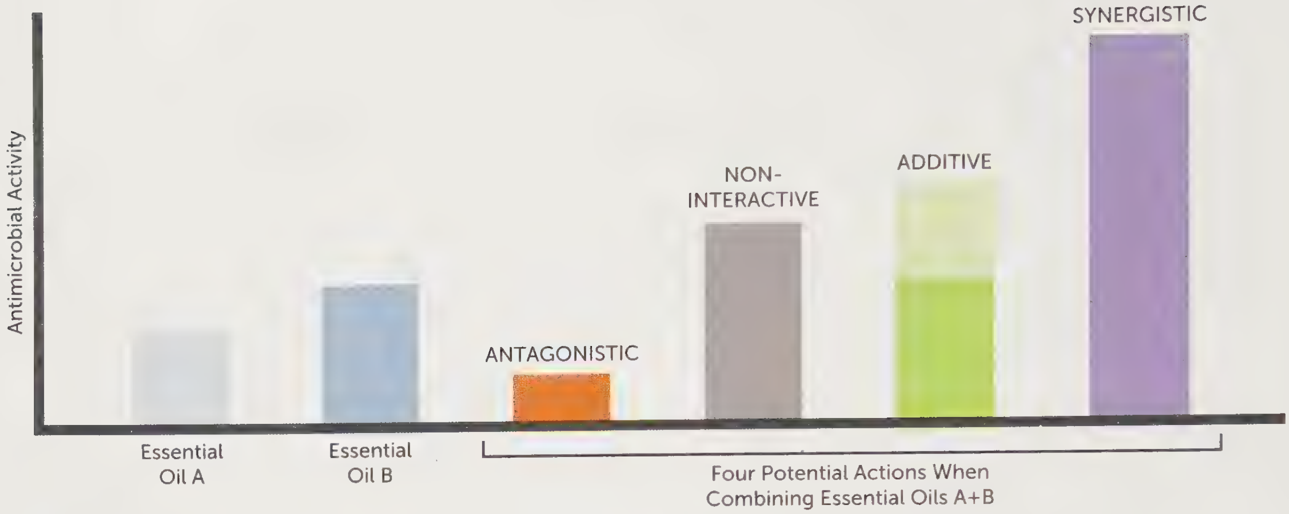
Major components of essential oils are often praised and highlighted for maintaining the majority of the therapeutic value of an essential oil. However, increasing amounts of evidence indicate that interactions between main and minor constituents also contribute to the inherent activity of essential oils (Hyldgaard et al., 2012). For example, the minor trace components found in essential oils can enhance the antimicrobial activity of an essential oil and may produce a synergistic effect (Hyldgaard et al., 2012; Delaquis et al., 2002). This is supported by reports that crude basil essential oil has greater antimicrobial activity than blends of the oil's major individual components, linalool and methyl chavicol (Lachowicz et al., 1998).

—Antimicrobial Activity

The majority of research on essential oil synergy has been focused on antimicrobial activity. This is due to the significant interest in unlocking the synergistic antimicrobial activity of essential oils for food preservation and treatment of human pathogens. Synergy allows for the use of less essential oil without decreasing the antibacterial action (Gibriel et al., 2013). Currently, thyme essential oil can be used as a food preservative, but the concentration needed to be an efficient antimicrobial leaves a distinctive bitter flavor (Gibriel et al., 2013). Blending two or more essential oils allows for increased antibacterial potential (Gibriel et al., 2013). By combining rosemary and cumin essential oils with thyme, the antibacterial properties are increased and less essential oil is needed to properly preserve food (Gibriel et al., 2013). Using multiple essential oils as a blended food preservative will require a smaller amount of total essential oil product and will lessen the effect on food taste.

Since many interactions are possible when blending essential oils, training and experimentation are needed to achieve a synergistic blend. For example, synergy, additive, non-interactive, and antagonistic interactions are possible when blending essential oils (See Figure 5) (Gibriel et al., 2013; de Rapper et al., 2013). Lavender essential oil was combined in a one to one ratio with forty-five different essential oils and tested for antimicrobial properties against Gram-negative, Gram-positive, and yeast strain microorganisms (de Rapper et al., 2013). About half of the combinations produced additive

Possible Antimicrobial Activity of Two Essential Oils



🟧 Antagonistic activity means that the combined effect of the two essential oils is less than either essential oil independently.

🟩 Additive activity means that the effect of the two essential oils together is the same as the sum of the two essential oils separately.

⬜ Non-interactive activity includes any interaction that is more active than antagonistic activity but less active than additive activity.

🟪 Synergistic activity means that the effect of the two essential oils combined is greater than the sum of the two oils independently.

—Figure 5. This graph shows the four interactions that are possible when two essential oils are blended together. When blended, the combination of two essential oils will only display one of the following four interactions.

antimicrobial properties, while over one fourth were synergistic and less than one fourth were non-interactive (de Rapper et al., 2013). Only one tested essential oil (Cymbopogon citratus, a type of lemongrass essential oil) in combination with lavender oil expressed antagonism (de Rapper et al., 2013). The most noteworthy antimicrobial synergistic blends were lavender paired with cypress, cinnamon, or orange essential oil (de Rapper et al., 2013). These findings support the use of essential oil blends in aromatherapeutic practices because over seventy-five percent of essential oil combinations investigated showed either synergistic or additive results (de Rapper et al., 2013).

Several hypotheses have attempted to explain why essential oil blends have increased antimicrobial properties when compared to single oils. A prevalent hypothesis is that some minor essential oil constituents cause damage to microbial cell membranes, allowing the antimicrobial essential oil constituents to easily enter the cell and cause direct damage (Delaquis et al., 2002; Langeveld et al., 2014). Strong evidence suggests that no one mechanism is responsible for the antimicrobial activity of essential oil constituents and that these constituents target several different cellular functions (Tyagi et al., 2012). Furthermore, essential oils have been shown to demonstrate synergy with negative air ions, low pH, sodium chloride, and many antibiotic drugs (Tyagi et al., 2012; Lachowicz et al., 1998; Langeveld et al., 2014). The use of pure and natural essential oils will ensure the presence of all needed chemical constituents and the most efficient antimicrobial activity.

—Permeation Synergy

Synergy has also been studied with aromatic and dermal application of essential oils. Experimenters have studied essential oil organ permeation ability by testing essential oil constituents in isolation and in combination.

For example, a study conducted with mice compared organ concentrations of essential oil constituents when aromatically administered separately or as a mixed compound (Satou et al., 2013). Interestingly, the amount of α-pinene present in the brain and liver after mixed-compound administration was two times greater than the amount detected after isolated α-pinene administration (Satou et al., 2013). Similarly, experimenters measured the human skin permeation ability of chemical constituents commonly found in essential oils—including limonene, β-citronellol, and eugenol—alone and in concert (Schmitt et al., 2009). Limonene synergistically enhanced the permeation of β-citronellol and eugenol when used in combination (Schmitt et al., 2009). Both these experiments show that essential oil constituents produce cooperative interactions.

By testing the essential oil constituents in isolation and in combination, the researchers were able to verify the synergistic effect essential oil constituents have on one another. As research continues to progress, more synergistic interactions of essential oils will be revealed.

Ensuring Essential Oil Purity and Quality

Essential oils are used in the perfume, flavoring, and aromatherapy industries. The therapeutic use of essential oils, however, requires the highest quality and purity of essential oils. To ensure high standards, therapeutic-grade essential oils are tested throughout production. Tests are used to validate that an essential oil contains certain chemical constituents within an acceptable percentage range. Tests are also used to ensure that no foreign substances, such as pesticides or synthetic chemicals, are in an essential oil.

—Chemical Constituent Percentage Range

The characteristic aroma of an essential oil is the product of many different chemicals. Altering the amount of one chemical constituent in an essential oil can change the aroma and quality of an essential oil. Some chemical constituents comprise less than one percent of a total essential oil but have a significant impact on the smell and therapeutic property of the oil (Tisserand et al., 2014). Since plants—not chemists—produce essential oils, their very nature results in inconsistencies and fluctuations in chemical constituent content. Some aspects of essential oil production that influence the chemical constituent content include the following: growth environment of the plant, part of the plant distilled, age of the plant, time of harvest, distillation process, and method of storing (Tisserand et al., 2014).

To establish a standard of quality that considers the many factors affecting chemical constituent content, experts have assigned percentage ranges for each chemical constituent in an essential oil. High quality oil contains all the necessary chemical constituents within the established ranges. For example, terpinen-4-ol found in melaleuca oil is normally between 30% and 55% (Tisserand et al., 2014). Therefore, identifying the quality of an essential oil based on its chemical profile requires modern chemical analysis.

—Adulteration

Essential oil purity is a measurement of adulteration. The purity of an essential oil will affect the quality of the essential oil. A pure essential oil must be from one plant species and distillation process. Some manufacturers adulterate essential oils without consumer knowledge by blending different essential oils or different qualities, adding chemical constituents or synthetics, and diluting an essential oil. Third party testing can evaluate the content of an essential oil, ensuring that no foreign substances have been added.

Testing

A variety of tests are used to ensure that an essential oil meets the standards of the supplier. Testing can occur during plant selection, harvesting, distillation, packaging, and storage.

—Sensory Evaluation

The simplest form of testing is performed by expert growers and distillers and involves no machinery. Instead, experts have trained their senses, particularly their olfactory senses, to detect inconsistencies in oil aroma, texture, and color. This method of testing, though useful as a preliminary assessment, cannot detect non-odorous adulterants; so physical or chemical analysis is also utilized to ensure the quality and purity of an essential oil (Tisserand, et al., 2014).

Experts performing olfactory evaluation have spent years training their noses to detect differences between pure essential oils. However, even novice essential oil users can learn to discern between pure essential oil and a synthetic fragrance. The nose can be improved through training just as any other talent. For example, try smelling pure lavender essential oil and comparing it to a known synthetic lavender product like laundry detergent or hand soap. Between inhaling each aroma, sniff your shirt in order to neutralize your senses. After comparing the fragrances, you should be able to notice a difference between the two aromas.

—Physical Analysis

Relatively inexpensive methods can be used to assess the physical characteristics of essential oils. Common physical properties used to test essential oils include specific gravity, refractive index, and optical rotation. These physical characteristics can assist in detecting non-odorous adulterants and assessing quality. Since essential oils are natural compounds produced by plants, their physical characteristics can vary. For example, the specific gravity of peppermint oil increases from the lower to upper leaves of the plant (Board, 2003). Furthermore, physiochemical properties of essential oils can change in the course of the plant's harvest. For example, the optical rotation of orange essential oil decreases as the fruit matures (Board, 2003). Therefore, a range of acceptable values is used to evaluate the quality of an essential oil.

Specific Gravity involves comparing the density of an essential oil to the density of water at a specific temperature. If the percentage of chemical constituents is wrong due to impurity, the density will be affected. The specific gravity of essential oil usually ranges between 0.78–0.90 g/ml (Bowles, 2003). Compared to water's specific gravity of 1.0 g/ml, essential oils are usually less dense than water and would float on top of water. However, clove bud, wintergreen, and cinnamon essential oils can be denser than water (Bowles, 2003). Along with revealing the purity of an essential oil, the specific gravity can also reveal information about the production process of an essential oil. For example, the specific gravity of clary sage oil increases during the drying process before distillation (Board, 2003).

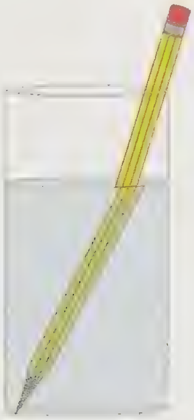


Figure 6: The different refractive indices of water and air are apparent when a pencil is placed halfway into water. The pencil looks bent because light travels slower in water than in air.

Refractive Index is a measure of the speed of light through a medium. Figure 6 shows a pencil in a container of water. Light travels slower in water than in air, causing the light to bend; so when you place a pencil in a cup of water, the pencil looks broken or bent. Similarly, light propagates differently in essential oils than it does in water or air. An instrument called a refractometer can measure the refractive index of an essential oil. The measured refractive index can then be compared to known refractive indices to identify the purity of an essential oil. The refractive index is constant for each compound, so it can easily be affected by small impurities or damage. For example, an increased refractive index in basil oil can indicate the oil has oxidized due to aging or exposure to light (Board, 2003). The increased refractive index can also indicate that the basil oil has been adulterated with the addition of cheaper reunion basil essential oil (Board, 2003).

Optical Rotation is a measurement of the rotation of polarized light as it passes through a chiral material. A chiral substance is an object with a non-superimposable mirror image. For example, hands are chiral. Hands have many similarities but have two important differences. First, hands are mirror images of each other. Second, hands are not superimposable, meaning no matter how two hands are oriented they will never match up perfectly. Conversely, mittens and socks are not chiral. Mittens can fit on either hand comfortably because mittens are mirror images of each other and are superimposable.

Enantiomers are defined as a chiral molecule and its mirror image. Chiral molecules are non-superimposable mirror images and can be compared to hands.

A chiral molecule and its mirror image are collectively called enantiomers. In living organisms, only one chiral molecule of the enantiomer pair exists—a concept that has fascinated scientists since the discovery of chirality (Blackmond, 2010). However, chemical synthesis of molecules in a laboratory results in the production of an equal mixture of both enantiomers.

Enantiomers share many of the same physical characteristics, including boiling point, melting

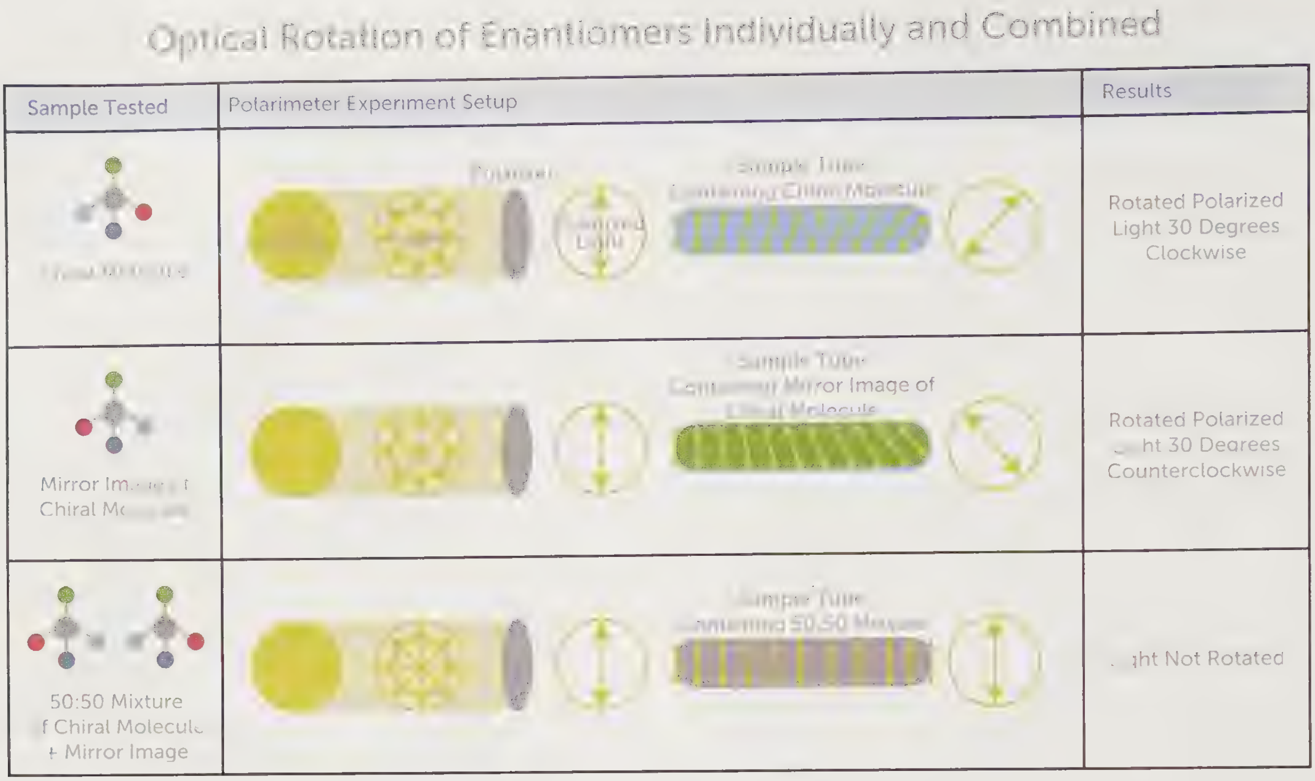

Optical Rotation of Enantiomers Individually and Combined
Sample Tested
Polarimeter Experiment Setup
Results
Chiral Molecule
Polarizer
Polarized Light
Sample Tube Containing Chiral Molecule
Rotated Polarized Light 30 Degrees Clockwise
Mirror Image of Chiral Molecule
Sample Tube Containing Mirror Image of Chiral Molecule
Rotated Polarized Light 30 Degrees Counterclockwise
50:50 Mixture of Chiral Molecule + Mirror Image
Sample Tube Containing 50:50 Mixture
Light Not Rotated

Figure 7: The optical rotation of a chiral molecule can help chemists discriminate between enantiomer molecules. Synthetic production of a chiral molecule results in an equal mixture of both enantiomers. This mixture does not rotate light because the individual rotation produced by each molecule is equal but opposite, and thus they cancel each other out.

point, specific gravity, and refractive index. On the other hand, enantiomers do differ physically when interacting with polarized light. Therefore, one of the only ways to discriminate between enantiomers is by measuring their optical rotation of polarized light. The optical rotation of enantiomers will be exactly the same except for the direction in which the molecule rotates the polarized light. For example, Figure 7 shows the optical rotation of a chiral molecule to be 30 degrees clockwise but the optical rotation of its mirror image to be 30 degrees counterclockwise.

Optical rotation can be measured by a polarimeter. A polarimeter can help identify which enantiomer is present in an essential oil, based on the direction of rotation (clockwise or counterclockwise) of an isolated sample of the essential oil's chemical constituent. Additionally, a polarimeter can reveal adulterations. For example, since synthetic molecules result in the production of an equal mixture of both enantiomers, the optical rotation of a synthetic substance would differ from a natural pure substance. As you can see in Figure 7, the optical rotation of an equal mixture of both enantiomers results in no light rotation. This is because both molecules rotate the light in an equal but opposite way, and thus cancel out any optical rotation. Therefore, a lack of optical rotation can indicate that the sample of molecule was created synthetically.

Up until now, the discussion has focused on the optical rotation of a single molecule or pair of enantiomers. However, scientists can also discern the quality of an essential oil by measuring the optical rotation of the entire oil, without separating the oil into its chemical constituents. For example, lime oil adulterated with terpenes can be detected by an increase in optical rotation from normal values (Board, 2003). Furthermore, the optical rotation of an oil can also be affected by unripe fruit or high wax content, both signs of poor quality oils (Board, 2003).

—Modern Chemical Analysis

In 1833, the French chemist M.J. Dumas published the first analysis of an essential oil's chemical constituents (Baser et al., 2009). Since Dumas, many chemists have also focused their efforts on identifying the countless chemicals found in essential oils. In the late nineteenth century, chemical reactions and optical rotation measurements were the only methods available for identifying chemical constituents in essential oils (Baser et al., 2009). However, with the recent introduction of modern chemical analysis methods, including Gas Chromatography Mass Spectrometry (GCMS) and Fourier Transform Infrared Spectroscopy (FTIS), the structural identification and analysis of chemical constituents is now possible. Modern chemical analysis goes beyond physical analysis by identifying the structure and quantity of chemical constituents in an essential oil. The use of modern chemical analysis provides the clearest information on the quality and purity of an essential oil. To ensure quality, essential oils should only be obtained from suppliers who require modern chemical testing on all their oils.

Gas Chromatography Mass Spectrometry (GCMS) is the most common technique used for analyzing essential oils (Baser et al., 2009). GCMS involves two main procedures. First, an essential oil is separated into its individual constituents by a process called gas chromatography. Next, an instrument called a mass spectrometer is used to identify the mass and quantity of the individual constituents.

The basic process of gas chromatography begins by injecting a sample substance into a heated column that then vaporizes the substance (See Figure 8). The components of a substance are separated based on their volatility, with the most volatile components reaching the end of the column first. Since essential oils are highly volatile substances, this technique is ideal for analyzing essential oils.

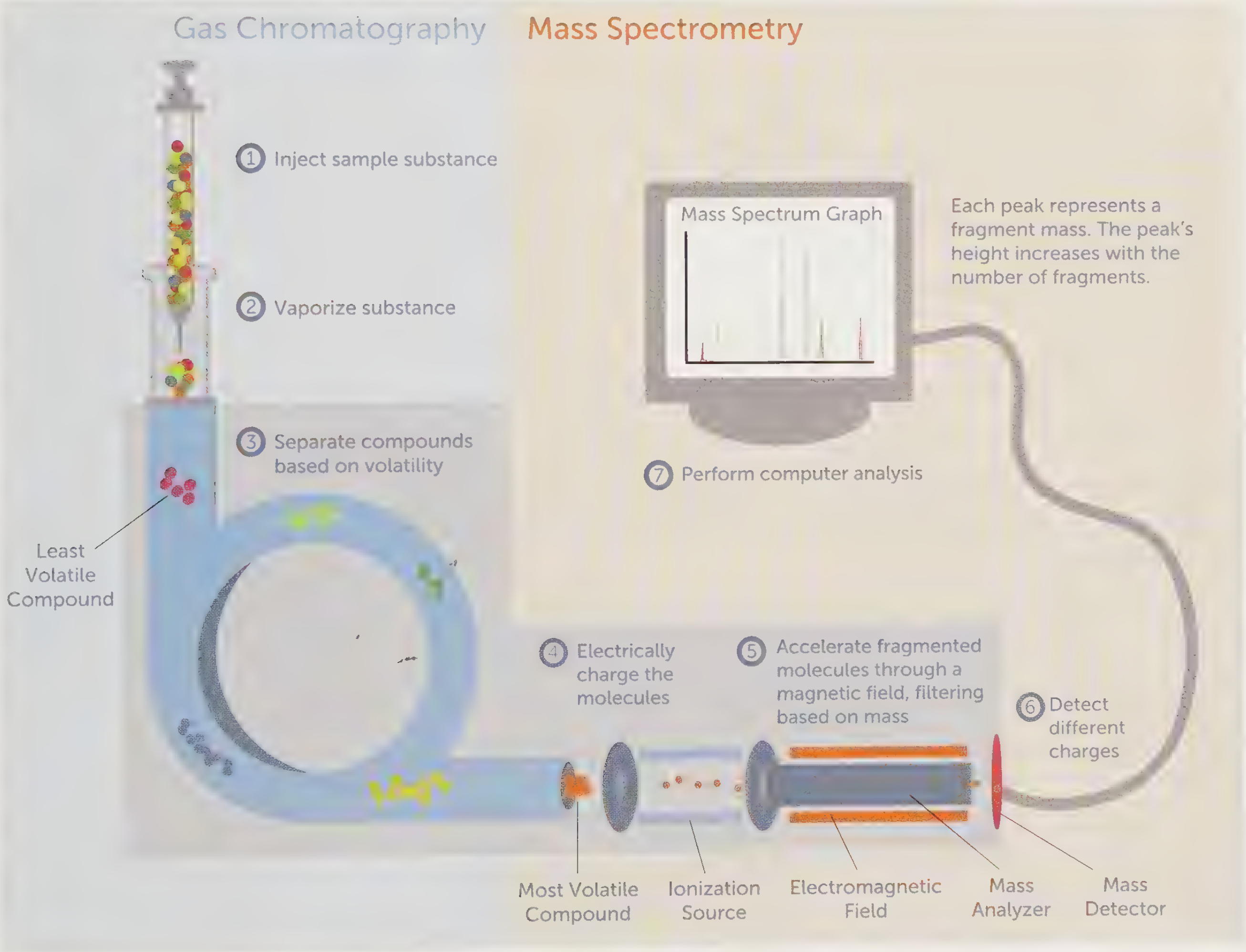

Gas Chromatography
Mass Spectrometry
① Inject sample substance
② Vaporize substance
③ Separate compounds based on volatility
Least Volatile Compound
Mass Spectrum Graph
Each peak represents a fragment mass. The peak's height increases with the number of fragments.
⑦ Perform computer analysis
④ Electrically charge the molecules
⑤ Accelerate fragmented molecules through a magnetic field, filtering based on mass
⑥ Detect different charges
Most Volatile Compound
Ionization Source
Electromagnetic Field
Mass Analyzer
Mass Detector

Figure 8: This diagram displays an overview of the Gas Chromatography Mass Spectrometry process. First, the gas chromatography process (highlighted in blue) separates the chemical constituents of an essential oil. Second, the mass spectrometry (highlighted in yellow) calculates the mass of the original whole substance, the mass of the fragments, and the quantity of each fragment.

To clarify, gas chromatography can be compared to an uphill race. All the contestants begin together at the start line. As the race begins, the competitive athletes quickly separate from the crowd as the slower contenders struggle to move up the inclined track. The hill creates a gradient of runners based on their training and ability. Similarly, gas chromatography separates chemicals based on their physical and chemical characteristics.

Once an essential oil is separated by gas chromatography, it is then analyzed by mass spectrometry. A molecule that enters the mass spectrometer is first blasted with electrons. This causes the molecule to separate into positively charged fragments called ions. The ions then travel through an electromagnetic field that filters the ions based on mass. At the end of the filter, a mass detector counts the number of ions associated with each mass. Lastly, a computer generates a mass spectrum graph that shows the number of fragments that fall into each mass group.

To simplify mass spectrometry, the process can be thought of as a money coin counter. For example, a handful of various coins can be inserted into the coin counter machine and the machine is able to sort the coins based on their size. Furthermore, the machine is able to calculate the quantity of each coin and the grand total value of all the coins together. Similarly, the mass spectrometer is able to sort molecule fragments by their mass to generate a graph that reveals the mass of the original whole substance, the mass of the fragments, and the quantity of each fragment.

GCMS is an extremely useful method for testing essential oils because the chemical constituents can be identified and the percentage of each constituent can be calculated. Chemical constituent percentages fluctuate due to the inherent variability of plant growth and the distillation processes. Identifying the chemical constituent percentages of an essential oil can elucidate the quality of an essential oil. Even pure essential oils will be rejected for therapeutic use if the chemical constituent percentages measured during GCMS are found to be abnormal.

Furthermore, GCMS can also reveal adulterants that have been added to an essential oil. Specifically, GCMS is useful for detecting nonvolatile adulterants like heavy metals. However, no one test is completely reliable; so essential oils are often additionally tested using other modern methods.

Fourier Transform Infrared Spectroscopy (FTIS) is another common technique used to analyze essential oils. Specifically, FTIS is used to identify the characteristics of bonds between different atoms.

Electromagnetic Spectrum

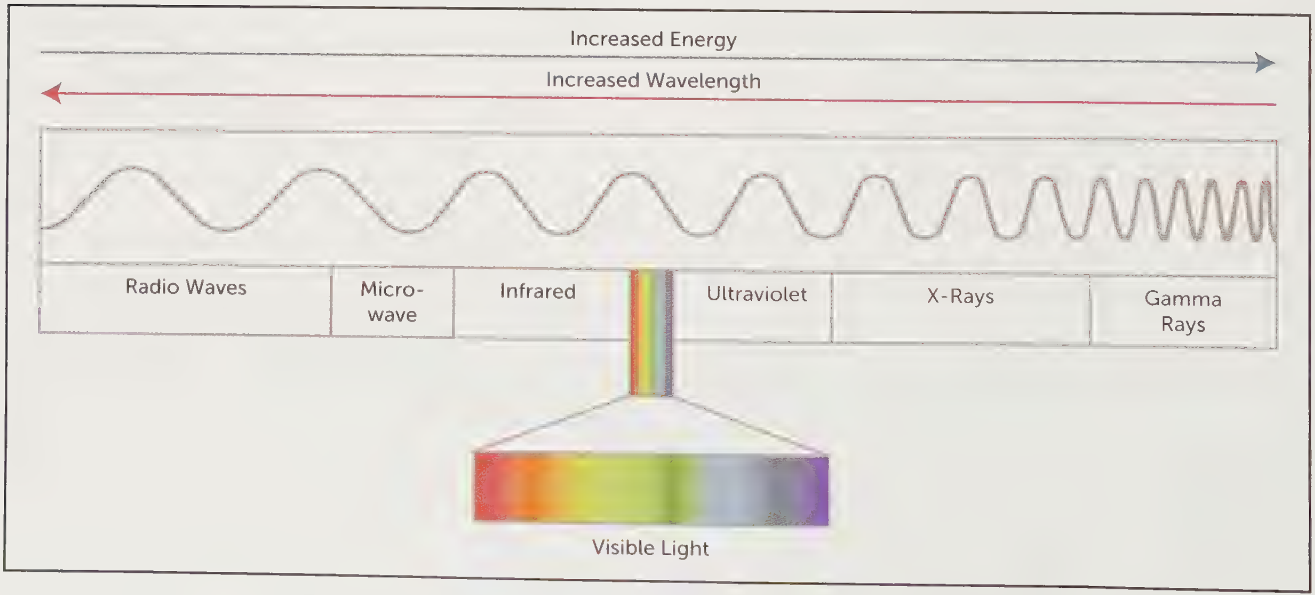


Figure 9: Infrared radiation is a type of electromagnetic radiation with a wavelength greater than red visible light. Infrared radiation is emitted by heated objects.

Therefore, FTIS, like GCMS, can be used for the identification of chemical constituents. Since FTIS uses a different technology but obtains the same information as GCMS, it is often used to substantiate results obtained from GCMS. Unlike GCMS, FTIS has the ability to discriminate between different chiral molecules (Baser et al., 2009).

FTIS consists of a process called infrared spectroscopy in which infrared radiation (See Figures 9 and 10) is passed through a sample substance. Some of the infrared radiation is absorbed by the sample, and some is allowed to pass through the sample. A detector measures the pattern of absorption created by the sample. The pattern of absorption is unique, like a fingerprint, for each sample.

After the detector obtains a pattern of absorption, a computer performs a mathematical calculation called a Fourier transform. The Fourier transform converts the raw data into a readable spectrum. The absorption spectrum of the sample can determine the quality or consistency of a sample and determine the amount of components in a mixture (Thermo Nicolet Corporation, 2001).

Since the absorption peaks produced by infrared spectroscopy are unique for each compound, the results can be used to identify substances. Furthermore, the size of each peak is a direct indication of the amount of material present in the sample.

Understanding these methods of testing essential oils will help you to make educated essential oil purchases. Although there are many more testing methods, the methods presented in this section are the most widely used. To ensure the quality and purity of an essential oil, multiple tests should be used. You can contact an essential oil provider to obtain information on the testing performed on their essential oils.

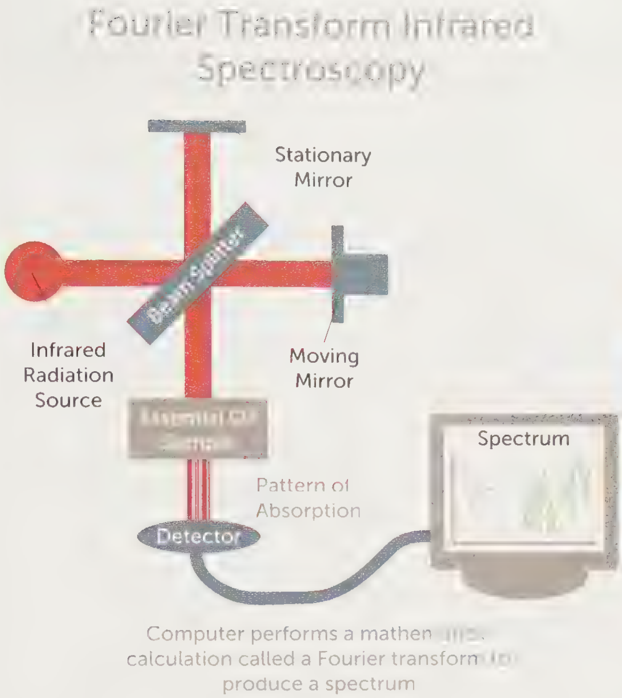

Fourier Transform Infrared Spectroscopy
Stationary Mirror
Beam Splitter
Infrared Radiation Source
Moving Mirror
Essential Oil Sample
Spectrum
Pattern of Absorption
Detector
Computer performs a mathematical calculation called a Fourier transform to produce a spectrum

Figure 10: This simplified diagram illustrates the process of FTIS. First, an infrared beam is split and reflected off two mirrors. The beam reunites and passes through a sample substance. The absorption pattern created by the substance is recorded by a detector and then processed by a computer. Fourier transform calculations performed by the computer produce a spectrum that can be used to identify the substance.

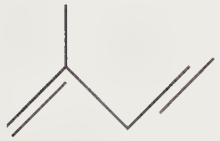
Essential Oil Constituents

In general, pure essential oil constituents can be subdivided into two distinct groups: the hydrocarbons, which are made up almost exclusively of terpenes (monoterpenes, sesquiterpenes, and diterpenes), and the oxygenated compounds, which are mainly esters, aldehydes, ketones, alcohols, phenols, and oxides.

Terpenes

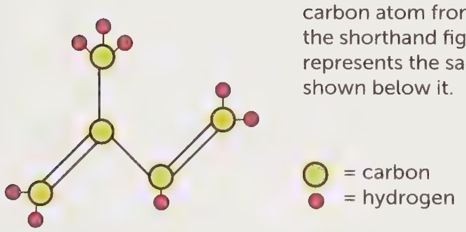
Terpenes are the largest family of natural products and are found throughout nature. High concentrations of terpenes are found directly after flowering (Paduch et al., 2007). The basic molecular structure of a terpene is an isoprene unit (which has a C_5H_8 molecular formula):

Isoprene Unit
(C_5H_8)



Figures such as the one shown at left represent the bonds between carbon (C) atoms in a molecule. Single lines represent a single bond, while double lines represent a double bond. Each intersecting point and the end of each line represents a carbon molecule along with any hydrogen molecules it is bonded to. Since each carbon molecule can have up to four bonds with other atoms, the number of hydrogen atoms can be determined by subtracting the number of bonds (lines) coming to each carbon atom from four. Thus the shorthand figure at top represents the same molecule shown below it.

Isoprene Unit
(C_5H_8)



Classes of terpenes are named according to how many isoprene units are present.

- Monoterpenes (C10) = two isoprene units
- Sesquiterpenes (C15) = three isoprene units
- Triterpenes (C30) = six isoprene units
- Tetraterpenes (C40) = eight isoprene units

Terpenes may also have oxygen-containing functional groups. Terpenes with these oxygen-containing functional groups are referred to as terpenoids (McGarvey et al., 1995).

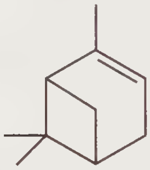
—Monoterpenes

Monoterpenes occur in practically all essential oils and have many different activities. Most tend to inhibit the accumulation of toxins and help discharge existing toxins from the liver and kidneys. Some are antiseptic, antibacterial, stimulating, analgesic (weak), and expectorant; while other specific terpenes have antifungal, antiviral, antihistaminic, antirheumatic, antitumor (antiblastic, anticarcinogenic), hypotensive, insecticidal, purgative, and pheromonal properties. Monoterpenes, in general, have a stimulating effect and can be very soothing to irritated tissues as well. Most citrus oils (not bergamot) and conifer oils contain a high proportion of terpenes.

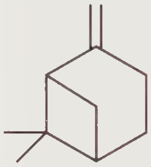
Found as a Significant Constituent in ALL Essential Oils Except: Basil, birch, cassia, cinnamon, clary sage, clove, geranium, sandalwood, vetiver, wintergreen, and ylang ylang.

Examples of Monoterpenes:

– Pinenes (α- & β-)



α- Pinene



β- Pinene

α- and β- pinene are isomers (meaning they have the same chemical formula but differing structures). They get their name because they are major constituents in pine resin or pine oil. They give off a resiny, piney smell. Pinenes have strong antiseptic, antibacterial, antifungal, and expectorant properties.

Bone Resorption Inhibition: α- and β-pinene (found in pine oil) were found in animal studies to inhibit bone resorption. Bone resorption is the process by which osteoclasts—macrophage cells that reside in the bones—break down bone and release the minerals, which can lead to the loss of bone, such as in osteoporosis. Further studies have indicated that while α- and β-pinene may not directly influence osteoclast activity and bone resorption rates, a metabolite (a product created by the body from the original molecule when taken internally) of the pinenes, cis-verbenol, did directly inhibit bone resorption and the formation of osteoclasts (Eriksson et al., 1996 and Muhlbauer et al., 2003).

Mosquito Larvicide: α-pinenes found in *Alpinia speciosa* and *Rosmarinus officinalis* (ginger and rosemary) demonstrated effective larvicidal activity against the mosquito *Aedes aegypti L.* The *A. aegypti* is a carrier of the dengue virus that causes dengue fever in tropical areas of the world (Freitas et al., 2010).

Antibacterial: It has been observed that the larvae of the Douglas fir tussock moth have digestive systems that are relatively clear of bacterial flora. These larvae feed on terpenes found in the bark of Douglas fir trees, of which α-pinene is a major constituent. α-pinene inhibits the growth of *Bacillus* species (gram-positive bacteria). The concentration needed for maximum inhibition is well below the concentrations of α-pinene found in Douglas fir pine trees. Bacterial inhibition occurs because α-pinene disrupts the cytoplasmic membranes of the bacterial species. α-pinene seems to perform more effectively against gram-positive bacteria than gram-negative bacteria due to the extra outer membrane found in the cell walls of gram-negative bacteria (Andrews et al., 1980 and Uribe et al., 1985).

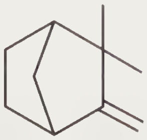
Anti-inflammatory: NF$_{\kappa}$B is an important transcription factor in the body that regulates proinflammatory responses (signals proteins, specifically cytokines, to cause inflammation). When NF$_{\kappa}$B is activated, it goes to the nucleus of the cells, binds to DNA, and activates transcription needed to produce cytokines, chemokines, and cell adhesion molecules. These molecules all help in producing inflammation in the body.

α-pinene has been shown to inhibit/block NF$_{\kappa}$B from going to the nucleus. LPS (lipopolysaccharide, an endotoxin produced by gram-negative bacteria that causes inflammation in the body) was introduced to the cell culture of THP-1 cells to induce the activation of NF$_{\kappa}$B. However, when α-pinene was present, activation was markedly reduced.

α-pinene inhibits NF$_{\kappa}$B by blocking the degradation of I$_{\kappa}$Bα. I$_{\kappa}$Bα is a protein that binds to NF$_{\kappa}$B to prevent it from constantly transcribing proinflammatory genes. If LPS, a virus, or some stimulant of the immune system is recognized, I$_{\kappa}$Bα will degrade and release/activate NF$_{\kappa}$B. NF$_{\kappa}$B will then transcribe genes to make proteins that cause inflammation at the site of "invasion," such as a cut, scrape, or burn.

Even in the presence of an immune system stimulant (LPS), α-pinene blocks I$_{\kappa}$Bα. During experimentation, it was also noted that the THP-1 cells received no cytotoxicity from the addition of α-pinene (Zhou et al., 2004 and Weaver, 2008).

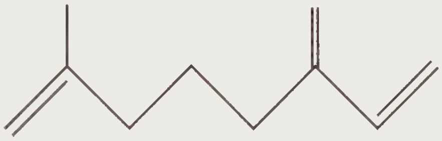
–Camphene



Camphene

Camphene is found in many oils, such as cypress, citronella, neroli, ginger, and others. It is an insect repellent. According to the *Phytochemical Dictionary*, it is "used to reduce cholesterol saturation index in the treatment of gallstones."

– β-Myrcene

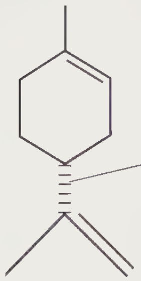


β-Myrcene

β-Myrcene is found in oils such as lemongrass, verbena, and bay. It has cancer–preventative properties.

Antioxidant: Studies have elucidated that β-myrcene can reverse and prevent the damaging effects of TCDD (2,3,7,8-Tetrachloro-p-dibenzodioxin) to the liver of rats by increasing GSH (glutathione), SOD (superoxide dismutase), and catalase activation (Ciftci et al., 2011 and Gaetani et al., 1996).

– d-Limonene



Broken lines such as this represent a bond that bends 90° inward (towards the book).

d-Limonene

d-Limonene is found in 90% of the citrus peel oils and in caraway seeds and dill. It is anticancer, antibacterial, antifungal, antiseptic (5x phenol), and highly antiviral.

Cancer Cell Inhibition: d-limonene has been found to be cancer-preventive in vitro and in human mammary cells. It acts as a selective isoprenylation inhibitor. d-Limonene specifically inhibits small g-proteins known as Ras p21 (or p21ras). p21ras is a critical protein for oncogenesis (formation of cancer cells) in the body. In order for oncogenesis to commence, the p21ras protein must be transferred within the cell to the plasma membrane. Once p21ras is able to interact with the plasma membrane of the cell, it causes abnormal cell growth, intracellular localization, and transformations.

d-limonene inhibits the transferral of p21ras within the cell, blocking its access to the plasma membrane.

Researchers also found that d-limonene is selectively inhibitive. It targets only the transferral of Ras proteins and leaves all other ordinary cell functions alone. This makes d-Limonene a potentially effective chemopreventive agent because it targets areas of high oncogenic susceptibility and has no harmful side effects against critical cell components (low toxicity) (Kato et al., 1992; Crowell et al., 1991; and Morse et al., 1993).

Researchers have also observed that a continuous dose of limonene in the diets of rats with chemical-induced cancer helps inhibit the formation of secondary tumors and reduces the size of primary tumors. However, when limonene was removed from the rat's daily diet, tumors were more likely to return. This gives evidence that limonene works as a cytostatic agent (an agent that stops the tumor cells from creating new tumor cells) rather than a cytotoxic agent (an agent that kills the tumor cells). These researchers also observed that little toxicity occurred to the rats from the high doses of d-limonene (Haag et al., 1992).

Cholesterol Suppression: Researchers have discovered that when d-limonene is included in the daily diet of rats treated with a chemical (7,12-dimetylbenzantracene) that induced high cholesterol, there was a 45% decrease in hepatic HMG-CoA reductase activity. HMG-CoA reductase is an enzyme that converts HMG-CoA (93-hydroxy-3-methylglutaryl coenzyme A) to mevalonic acid, which acts as a precursor to the production of cholesterol. Inhibiting HMG-CoA reductase halts this process and, in effect, lowers cholesterol rates (Sorentino et al., 2005 and Qureshi et al., 1988).

—Sesquiterpenes

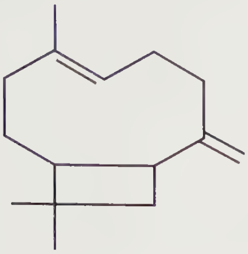
Sesquiterpenes are found in great abundance in essential oils. They are antibacterial, strongly anti-inflammatory, slightly antiseptic and hypotensive, and sedative. Some have analgesic properties, while others are highly antispasmodic. They are soothing to irritated skin and tissue and are calming. They also work as liver and gland stimulants. Research from the universities of Berlin and Vienna shows that sesquiterpenes increase oxygenation around the pineal and pituitary glands. Further research has shown that sesquiterpenes have the ability to surpass the blood-brain barrier and enter the brain tissue. They are larger molecules than monoterpenes and have a strong aroma.

Found as a Major Constituent In: Ginger, myrrh, sandalwood, vetiver, and ylang ylang.

Found as a Minor Constituent In: Bergamot, cinnamon, clary sage, clove, cypress, white fir, frankincense, geranium, helichrysum, lavender, lemongrass, melaleuca, and peppermint.

Examples of Sesquiterpenes:

–β-Caryophyllene



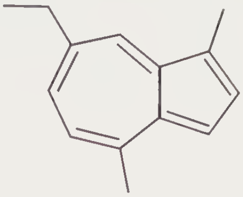
β-Caryophyllene

β-caryophyllene is found in clove and cinnamon essential oils and is found in high proportions in plants from the Labiatae family. It is antiedema, anti-inflammatory, antispasmodic, and an insect and termite repellent.

Anesthetic: β-caryophyllene has been shown to act as a local anesthetic in vitro and in vivo. In an in vitro experiment, β-caryophyllene reduced the number of contractions electrically invoked in rat phrenic nerve-hemidiaphragms. Phrenic nerves are found in the spine, specifically at the 3rd, 4th, and 5th cervical vertebrae. These nerves provide sole motor control to the diaphragm. In this experiment, electrical impulses through the phrenic nerves induced diaphragm contractions, but the addition of β-caryophyllene reduced the number of contractions (Bulbring, 1946).

In an in vivo (real life) experiment, researchers performed a conjunctival reflex test on rabbits in which the conjunctival sac, found in the eye, was stimulated with a cat whisker to promote palpebral closure (or blinking). β-caryophyllene acted as a local anesthetic: when it was applied to the eye, more stimulation with the cat whisker was required in order to promote blinking in the rabbit (Ghelardini et al., 2001).

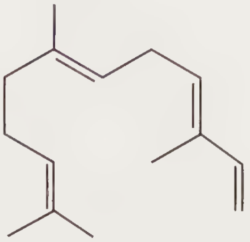
–Chamazulene



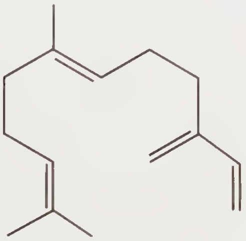
Chamazulene

Chamazulene is found in chamomile oil and is very high in anti-inflammatory and antibacterial activity.

–Farnesene



α-Farnesene



β-Farnesene

Farnesene refers to several isomers with the chemical formula $C_{15}H_{24}$. Farnesene is found in ylang ylang, valerian, and German chamomile oil and is antiviral in action.

Alcohols

Alcohols are any organic molecule with a carbon atom bound to a hydroxyl group. A hydroxyl group is an oxygen and hydrogen molecule (-OH). Alcohols are commonly recognized for their antibacterial, anti-infectious, and antiviral activities. They are somewhat stimulating and help to increase blood circulation. Because of their high resistance to oxidation and their low toxicity levels, they have been shown in animal studies to revert cells to normal function and activity. They create an uplifting quality and are regarded as safe and effective for young and old alike.

Found as a Significant Constituent in ALL Essential Oils Except: Birch, cassia, clove, white fir, grapefruit, myrrh, oregano, and wintergreen.

—Monoterpene Alcohols (or Monoterpenols)

Like monoterpenes, monoterpene alcohols are comprised of two isoprene units but have a hydroxyl group bound to one of the carbons instead of a hydrogen. Monoterpene alcohols are known for their ability to stimulate the immune system and to work as a diuretic and a general tonic. They are antibacterial and mildly antiseptic as well.

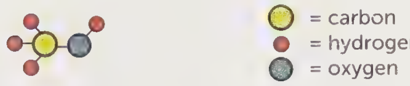
Examples of Monoterpene Alcohols:

Methanol (CH_3OH)

—OH

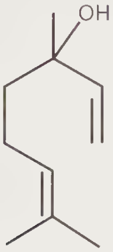
Methanol (CH_3OH)

Shorthand model of methanol, the simplest alcohol, and the molecular model it represents, below.



● = carbon
● = hydrogen
● = oxygen

–Linalool



Linalool

Linalool is found in rosewood, bergamot, coriander, rose, jasmine, and lavender essential oils. It has a flowery aroma and is used to scent soaps, shampoos, and perfumes. Linalool can help relieve discomfort. It has antibacterial, antifungal, antiseptic (5x phenol), antispasmodic, antiviral, and sedative properties.

Anti-inflammatory: Linalool has been used to reduce paw swelling induced by carrageenan in mice. The effects of linalool work against swelling in a dose-dependent manner (Peana et al., 2002 and Skold et al., 2002). Linalool also mediates pain caused by inflammation. In a particular study, acetic acid was administered to mice via intraperitoneal (gut) injections. Mice that received a dose of linalool following administration of acetic acid exhibited less writhing (due to pain) than mice that acted as controls (Peana et al., 2003).

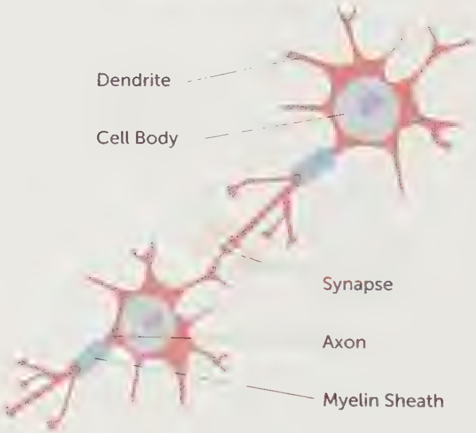
Antifungal: *Candida albicans* is the primary fungus responsible for yeast infections. Yeast infections are commonly exhibited as vulvovaginal candidiasis and thrush (oropharyngeal candidiasis, in the mouth). Thrush is commonly expressed in newborns and AIDS patients.

Candida albicans is also becoming a concern due to its emergence as a nosocomial infection (an infection contracted in a hospital) and its increasing resistance to fluconazole—an antifungal drug. *C. albicans* can form biofilms (aggregated colonies) on medical devices such as catheters and dentures (Mukherjee et al., 2003 and *Microbiology* 9th ed., 2007).

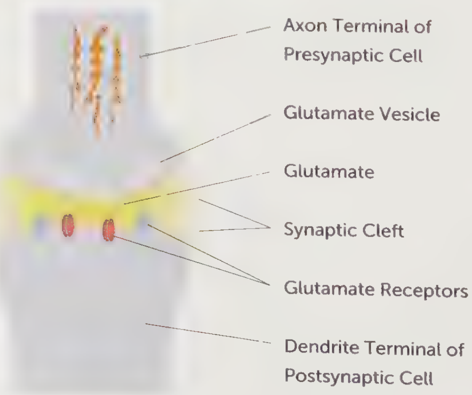
Topical application of linalool to colonies of the polymorphic fungus *Candida albicans* results in growth inhibition and fungal death. Linalool affects growth by blocking passage beyond the G1 (cell growth) phase of the cell cycle (Zore et al., 2011).

Sedative: Linalool is a common sedative used in Brazilian folk medicine. According to studies using mice, inhaled linalool induces sleep or sedation (Linck et al., 2009 and de Almeida et al., 2009).

Nerve Cells



Synapse

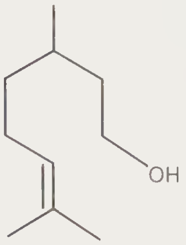

Axon Terminal of Presynaptic Cell
Glutamate Vesicle
Glutamate
Synaptic Cleft
Glutamate Receptors
Dendrite Terminal of Postsynaptic Cell

Antiepileptic/Anticonvulsant: Epilepsy is characterized by seemingly spontaneous spasms of electrical activity in the brain. These spasms can cause seizures and convulsions. One hypothesis for the cause of epilepsy is excessive glutamate levels in neurons (nerve cells)(Chapman et al., 2000; Meldrum et al., 1999; Meldrum, 1994; and Chapman, 1998). Glutamates are a common form of neurotransmitter that are stored in special vesicles (storage containers) near nerve synapses (locations where nerve cells come close to each other in order to pass along electrical impulses and signals). Impulses along the nerve cause one nerve cell to release glutamate across the synapse where it is received by receptors on the second nerve cell, opening channels in that cell to allow it to pass ions through the cell membrane, changing the electrical potential of that cell (*Medical Physiology* 10th ed., 2000).

Studies have shown that the release of large concentrations of glutamate will lead to too many open channels, which will cause high, intense depolarization sequences of the action potential. Disproportionate depolarizations are the basis for seizures and convulsions in epilepsy (Chapman et al., 2000; Meldrum et al., 1994; and Paolette et al., 2007).

Using mouse models, researchers have found that applications of linalool on cortical synaptosomes (isolated nerve terminals, or synapses) significantly inhibited glutamate uptake. Inhibition of glutamate is a method to reduce occurrences of epileptic seizures. These observations provide significant evidence for linalool acting as a possible antiepileptic agent (Silva Brum et al., 2001a and Silva Brum et al., 2001b).

–Citronellol



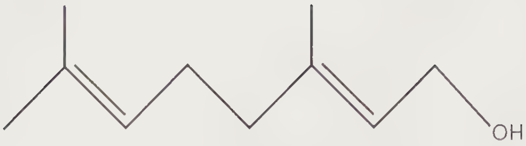
Citronellol

Citronellol is found in citronella, rose, melissa, and eucalyptus essential oils. It has antibacterial, antifungal, antiseptic (3.8x phenol), and sedative properties.

Anticonvulsant Activity: Administered doses of citronellol given via the intraperitoneal cavity (gut) to rodents have been observed to reduce the convulsive effects in induced epileptic attacks. Epilepsy is studied in animal models by inducing convulsions with compounds such as pentylenetetrazol (PTZ) and picrotoxin. Citronellol, over time, reduces the amplitude of the compound action potential (CAP) in neurons. This decreases the effect and intensity of convulsions (de Sousa et al., 2006).

Blood Pressure: Injections of citronellol into the blood were found by researchers to reduce blood pressure in animal models. Citronellol is theorized to decrease the flux of Ca^{2+} ions into smooth vascular muscle cells by deactivating VOCCs (voltage-operated calcium channels).Calcium is the principle regulator of tension in vascular smooth muscle (blood vessels). When the transport of Ca^{2+} into the cell is blocked, smooth muscle relaxation occurs. This leads to increased vasodilation (an increase in the diameter of the blood vessels, allowing a higher volume of blood flow) and, thus, lowered blood pressure (Bastos et al., 2009; Gurney, 1994; and Munzel et al., 2003).

–Geraniol



Geraniol

Geraniol is found in rose, citronella, and lemon essential oils. It has antifungal, antiseptic (7x phenol), cancer preventative, and sedative properties.

–Other Monoterpene Alcohols:

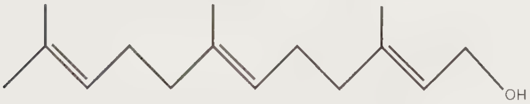
Borneol, menthol, nerol, terpineol (which Dr. Gattefossé considered to be a decongestant), vetiverol, and cedrol.

—Sesquiterpene Alcohols (Sesquiterpenols)

Like sesquiterpenes, sesquiterpene alcohols are comprised of three isoprene units but have a hydroxyl group bound to one of the carbons instead of a hydrogen. Sesquiterpene alcohols are known to be antiallergic, antibacterial, anti-inflammatory, ulcer-protective (preventative), and liver and glandular stimulant.

Examples of Sesquiterpene Alcohols:

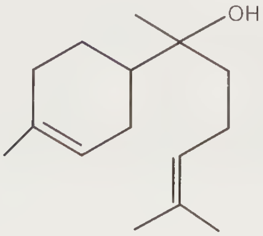
–Farnesol



Farnesol

Farnesol is found in rose, neroli, ylang ylang, and Roman chamomile essential oils. It is known to be good for the mucous membranes and to help prevent bacterial growth from perspiration.

–Bisabolol



Bisabolol

Bisabolol is found in German chamomile essential oil. It is one of the strongest sesquiterpene alcohols.

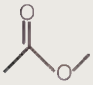
–Other Sesquiterpene Alcohols:

Others include nerolidol and zingiberol.

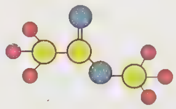
Esters

Methyl Acetate
(CH_3OOCH_3)

Methyl acetate (shown here) is a simple organic ester molecule.



Methyl Acetate
(CH_3OOCH_3)



● = carbon
● = hydrogen
● = oxygen

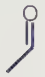
Esters are the compounds resulting from the reaction of an alcohol with an acid (known as esterification). Esters consist of a carboxyl group (a carbon atom double bonded to an oxygen atom) bound to a hydrocarbon group on one side and bound to an oxygen and a hydrocarbon group on the opposite side.
Esters are very common and are found in the mildest essential oils. Mostly free of toxicity and irritants, they tend to be the most calming, relaxing, and balancing of all the essential oil constituents. They are also antifungal and antispasmodic. They have a balancing or regulatory effect, especially on the nervous system. Some examples are linalyl acetate, geranyl acetate (with strong antifungal properties), and bornyl acetate (effective on bronchial candida). Other esters include eugenyl acetate, lavendulyl acetate, and methyl salicylate.

Found as a Major Constituent In: Birch, bergamot, clary sage, geranium, helichrysum, lavender, wintergreen, and ylang ylang.

Found as a Minor Constituent In: Cassia, clove, cypress, white fir, lemon, lemongrass, marjoram, and orange.

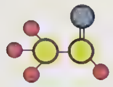
Aldehydes

Acetaldehyde
(CH_3CHO)



Acetaldehyde (shown here) is a simple organic aldehyde molecule.

Acetaldehyde
(CH_3CHO)



🟡 = carbon
🔴 = hydrogen
🔵 = oxygen

Aldehydes are often responsible for the fragrance of an oil. They exert powerful aromas and are often calming to the emotions. They are highly reactive and are characterized by a carboxyl group (a carbon atom double bonded to an oxygen atom) with a hydrogen atom on one side and a hydrocarbon group on the opposite side.

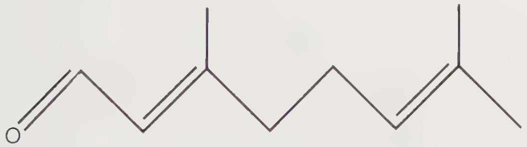
In general, they are anti-infectious, anti-inflammatory, calming to the central nervous system, fever-reducing, hypotensive, and tonic. Some are antiseptic, antimicrobial, and antifungal, while others act as vasodilators. They can be quite irritating when applied topically (citrals being an example). However, it has been shown that adding an essential oil with an equal amount of d-Limonene can negate the irritant properties of a high citral oil.

Found as a Major Constituent In: Cassia, cinnamon, and lemongrass.

Found as a Minor Constituent In: *Eucalyptus radiata*, grapefruit, lemon, myrrh, and orange.

Examples of Aldehydes:

—Citrals



Geranial

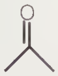
Citrals (like neral, geranial, and citronellal) are very common and have a distinct antiseptic action. They also show antiviral properties (as is the case with melissa oil) when applied topically on herpes simplex.

—Other Aldehydes

Benzaldehyde, cinnamic aldehyde, cuminic aldehyde, and perillaldehyde.

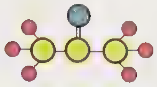
Ketones

Acetone
(CH_3COCH_3)



Acetone (shown here) is a simple ketone molecule.

Acetone
(CH_3COCH_3)



🟡 = carbon
🔴 = hydrogen
🔵 = oxygen

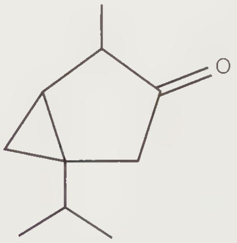
Ketones are organic compounds characterized by a carboxyl group (a carbon atom double bonded to an oxygen atom) with a hydrocarbon on both sides. Ketones are sometimes mucolytic and neurotoxic when isolated from other constituents. However, all recorded toxic effects come from laboratory testing on guinea pigs and rats. No documented cases exist where oils with a high concentration of ketones (such as mugwort, tansy, sage, and wormwood) have ever caused a toxic effect on a human being. Also, large amounts of these oils would have to be consumed for them to result in a toxic neurological effect. Ketones stimulate cell regeneration, promote the formation of tissue, and liquefy mucous. They are helpful with conditions such as dry asthma, colds, flu, and dry cough and are largely found in oils used for the upper respiratory system, such as hyssop, rosemary, and sage.

Found as a Major Constituent In: rosemary (CT verbenon).

Found as a Minor (but significant) Constituent In: Fennel, geranium, helichrysum, lemongrass, myrrh, peppermint, and vetiver.

Examples of Ketones:

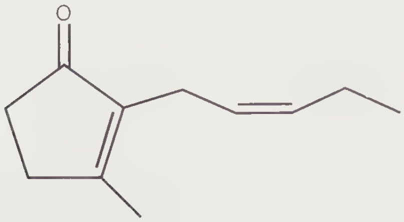
—Thujone



α-Thujone

Thujone is one of the most toxic members of the ketone family. It can be an irritant and upsetting to the central nervous system and may be neurotoxic when taken internally, such as in the banned drink absinthe. Although oils containing thujone may be inhaled to relieve respiratory distress and may stimulate the immune system, they should usually be used in dilution (1–2%) and/or for only short periods of time.

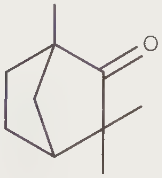
—Jasmone



Jasmone

Jasmone is found in jasmine essential oil and is nontoxic.

—Fenchone



Fenchone

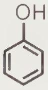
Fenchone is found in fennel essential oil and is nontoxic.

—Other Ketones:

Camphor, carvone, menthone, methyl nonyl ketone, and pinocamphone.

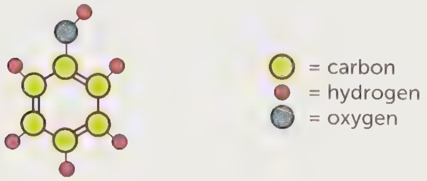
Phenols

Phenol (C_6H_6OH)



Phenol (shown here) is a simple phenol molecule.

Phenol (C_6H_6OH)



Phenols are a diverse group of compounds derived from a phenol group, which is comprised of a benzene ring (six carbon atoms bound in a circle) and a hydroxyl group (oxygen and hydrogen).

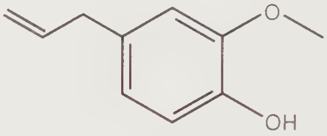
Phenols comprise some of the most powerful antibacterial, anti-infectious, and antiseptic constituents in the plant world. They are also very stimulating to both the nervous and immune systems. They contain high levels of oxygenating molecules and have antioxidant properties. However, they can be quite caustic to the skin, and they present some concerns regarding liver toxicity. Essential oils that contain a high proportion of phenols should be diluted and/or used only for short periods of time.

Found as a Major Constituent In: Basil, birch, cinnamon, clove, fennel, melaleuca, oregano, peppermint, thyme, and wintergreen.

Found as a Minor Constituent In: Cassia, marjoram, and ylang ylang.

Examples of Phenols:

—Eugenol



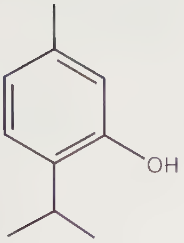
Eugenol

Eugenol is found in clove, nutmeg, cinnamon, bay, and basil essential oils. It has analgesic, anesthetic (in dentistry), anticonvulsant, antifungal, anti-inflammatory, antioxidant, antiseptic, cancer-preventative, and sedative properties.

Vasodilator: Eugenol was found to increase vasodilation (increase the diameter of the opening through the blood vessels) in animal models. When blood vessels expand, the result is larger amounts of blood flow and, thus, a decrease in heart rate. In these particular studies, it was observed that heart rate decreased in conjunction with increased vasodilation, as compared to controls (Lahlou et al., 2004 and Damiani et al., 2003).

Eugenol is thought to increase vasodilation by inhibiting the action of calcium (Ca^{2+}) in voltage-operated calcium channels (VOCCs). Ca^{2+} is the main regulator of vascular smooth muscle (blood vessel) tension. When Ca^{2+} is blocked, blood vessels relax and widen, allowing for an increase in blood flow (Gurney, 1994 and Munzel et al., 2003).

—Thymol

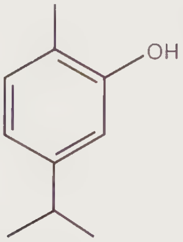


Thymol

Thymol is found in thyme and oregano essential oils. It may not be as caustic as other phenols. It has antibacterial, antifungal, anti-inflammatory, antioxidant, antiplaque, antirheumatic, antiseptic (20x phenol), antispasmodic, deodorizing, and expectorant properties.

Antibacterial: Thymol has been shown to inhibit the growth of microorganisms such as *Escherichia coli*, *Campylobacter jejuni*, *Porphyromonas gingivalis*, *Staphylococcus aureus*, and *Pseudomonas aeruginosa*. Thymol is thought to disrupt (or impair) the cytoplasmic membranes of microbes, causing cell leakage. Without the protective barrier of the cytoplasmic membrane, viability of these microorganisms significantly decreases (Shapiro et al., 1995; Xu et al., 2008; Lambert et al., 2001; and Evans et al., 2000).

—Carvacrol



Carvacrol

Carvacrol is a product of auto-oxidation of d-Limonene. It is antibacterial, antifungal, anti-inflammatory, antiseptic (1.5x phenol), antispasmodic, and expectorant. Researchers believe it may possibly have some anticancer properties as well.

—Other Phenols

Methyl eugenol, methyl chavicol, anethole, and safrole.

Oxides

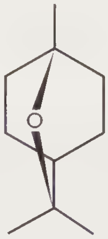
An organic oxide typically refers to an organic molecule (one that contains carbon and hydrogen) that has been oxidized, meaning an oxygen atom has become bound between two carbon atoms. According to the American Heritage® Dictionary of the English Language, an oxide is “a binary compound of an element or a radical with oxygen.” Oxides often act as expectorants and are mildly stimulating.

Found as a Major Constituent In: *Eucalyptus radiata* and rosemary.

Found as a Minor Constituent In: Basil, lemongrass, melaleuca, thyme, and ylang ylang.

Examples of Oxides:

—1,8-Cineol (Eucalyptol)



1,8-Cineol
(Eucalyptol)

1,8-cineol is, by far, the most prevalent member of the oxide family and virtually exists in a class of its own. It is anesthetic, antiseptic, and works as a strong mucolytic as it thins mucus in respiratory tract infections.

Anti-Inflammatory: Researchers found in an animal experiment that rats that were given oral doses of 1,8-cineole before injection with lambda carrageenan (a sweetener that causes inflammation) had markedly decreased swelling when compared to rats that were given the injection without a dosage of 1,8-cineole.

It has been suggested by scientists that 1,8-cineole inhibits cytokine production. Inhibiting cytokine production would decrease inflammation despite having a stimulant present (such a carrageenan) (Santos et al., 2000 and Juergens et al., 2003).

Asthma: Asthma is a chronic inflammatory disease that restricts air flow to the lungs (specifically in the bronchial tubes). A double-blind, placebo-controlled study was performed to test the ability of 1,8-cineole to alleviate asthmatic symptoms. All subjects in the study suffered from bronchial asthma and required daily administration of oral glucocorticosteroids in order to maintain stable conditions.

At the conclusion of the study, which lasted over a course of 12 weeks, patients who received daily doses of 1,8-cineole were able to maintain stable conditions despite significantly reduced oral doses of glucocorticosteroids, as compared to the placebo group. Proper lung function was also maintained four times longer in the test group than in the placebo group (Juergens et al., 2003 and Goodwin et al., 1986).

Pain: In one study, mice were injected in the hind paw with a dose of 1% formalin (a common substance used to model pain in experimental studies)/99% saline solution. A portion of mice were given 1,8-cineole. It was observed that these mice who received 1,8-cineole licked their paw substantially less (meaning they did not feel as much pain) than mice that did not receive the 1,8-cineole treatment. In this study, researchers found that 1,8-cineole treatment produced antinociceptive (pain-blocking) effects comparable to those observed for morphine (Santos et al., 2000 and Shibata et al., 1989).

—Other oxides

Linalool oxide, ascaridol, bisabolol oxide, 1,4-cineol, and bisabolone oxide.

Essential Oil Application—Symbols Used in This Section

Topical

Aromatic

Internal

Cleaning/Disinfecting

Lifestyle

Essential Oil Application Methods: Topical

Topical application is the process of placing an essential oil on the skin, hair, mouth, teeth, nails, or mucus membranes of the body. Applying essential oils directly on the body without any kind of dilution is commonly referred to as applying the oil "neat." Since essential oils are so potent, and because some essential oils may irritate the skin or other areas of the body, they are often diluted with a pure vegetable oil (usually called a "carrier oil") such as fractionated coconut oil, almond oil, olive oil, jojoba oil, etc. Several topical application methods are outlined below.

Direct Application:

Direct application is applying the oils directly on the area of concern. Because essential oils are so potent, more is not necessarily better. To achieve the desired results, 1–3 drops of oil are usually adequate. A few guidelines for direct application of the oils are as follow:

- The feet are the second fastest area of the body to absorb oils because of the large pores. Other quick-absorbing areas include behind the ears and on the wrists.
- To produce a feeling of peace, relaxation, or energy, 3–6 drops per foot are adequate.
- When massaging a large area of the body, always dilute the oils by 15% to 30% with fractionated coconut oil.
- When applying oils to infants and small children, dilute with fractionated coconut oil. Use 1–3 drops of an essential oil to 1 tablespoon (Tbs) of fractionated coconut oil for infants and 1–3 drops of an essential oil to 1 teaspoon (tsp) fractionated coconut oil for children ages 2–5.
- Use caution when creating blends for topical therapeutic use. Commercially-available blends have been specially formulated by someone who understands the chemical constituents of each oil and which oils blend well. The chemical properties of the oils can be altered when mixed improperly, resulting in some undesirable reactions.
- Layering individual oils is preferred over mixing your own blends for topical use. Layering refers to the process of applying one oil, rubbing it in, and then applying another oil. There is no need to wait more than a couple of seconds between each oil, as absorption occurs quite rapidly. If dilution is necessary, fractionated coconut oil may be applied on top. The layering technique is not only useful in physical healing but also in emotional clearing.

Massage:

Massage is the stimulation of muscle, skin, and connective tissues using various techniques to help promote healing, balance, and connection. Massages can be invigorating, relaxing, stimulating, or soothing, and essential oils applied using massage can help enhance these benefits. There are many different massage techniques currently in use, and to explore all of the various techniques would be beyond the scope of this book.

Unless you are a certified massage therapist and have a thorough understanding of anatomy, it is best to use only light to medium massage strokes for applying oils and to avoid the spine and other sensitive areas of the body. Extreme caution must also be used when massaging pregnant women and others with certain health conditions.

To create a simple massage oil that includes the benefits of essential oils, combine 3–10 drops of your desired essential oil or blend with 1 tablespoon (15 ml) of fractionated coconut oil or another carrier oil. Apply a small amount of this mixture on location, and massage it into the skin using light to medium-light strokes of the hand or fingers.

Reflexology/Reflex Therapy:

Reflex therapy is a simple method of applying oils to contact points (or nerve endings) in the feet or hands. A series of hand rotation movements at those control points create a vibrational healing energy that carries the oils along the neuroelectrical pathways. The oils either help remove any blockage along the pathways or travel the length of the pathway to benefit the particular organ. Refer to the reflex hand and foot charts on the following pages for more details.

Auricular Therapy

Auricular therapy is a method of applying the oils to various points on the rim of the ears to effect changes on internal body parts. Small amounts of the oil are applied to the point, and then the point is stimulated with the fingers or with a glass probe. See the Auricular Body Points chart on the following page for more details.

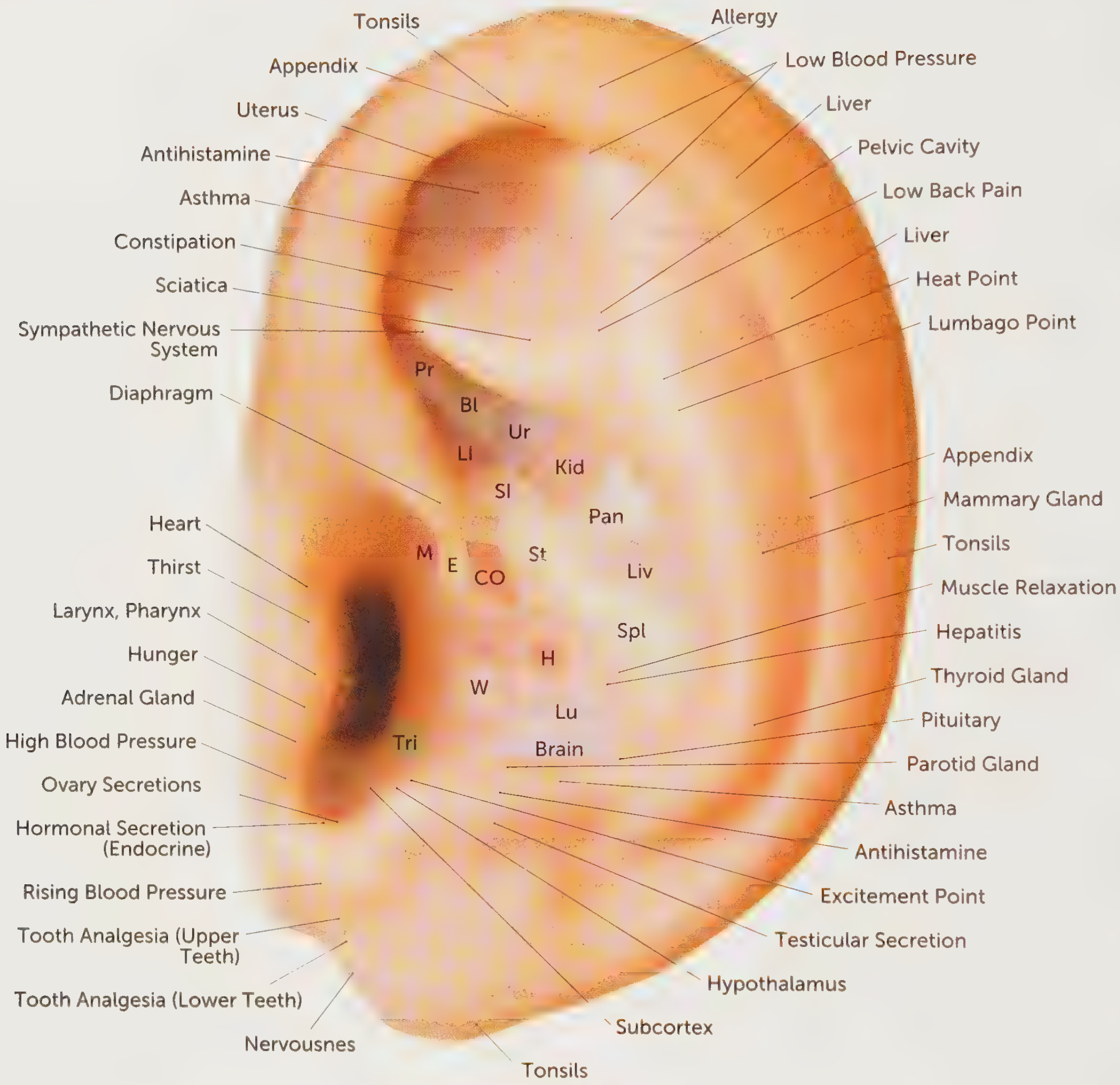
Compresses

1. Basin. Fill a wash basin with 2 quarts of hot or cold water, and add the desired essential oils. Stir the water vigorously; then lay a towel on top of the water. Since the oils will float to the top, the towel will absorb the oils with the water. After the towel is completely saturated, wring out the excess water (leaving much of the oils in the towel), and place the towel over the area needing the compress. For a hot compress, cover with a dry towel and a hot water bottle. For a cold compress, cover with a piece of plastic or plastic wrap. Finally, put another towel on top, and leave for as long as possible (1–2 hours is best).
2. Massage. Apply a hot, wet towel and then a dry towel on top of an already massaged area. The moist heat will force the oils deeper into the tissues of the body.

Baths

1. Bathwater. Begin by adding 3–6 drops of oil to the bathwater while the tub is filling. Because the individual oils will separate as the water calms down, the skin will quickly draw the oils from the top of the water. Some people have commented that they were unable to endure more than 6 drops of oil. Such individuals may benefit from adding the oils to a bath and shower gel base first. Soak for 15 minutes.
2. Bath and Shower Gel. Begin by adding 3–6 drops of oil to ½ oz of a bath and shower gel base; add to the water while the tub is filling. Adding the oils to a bath and shower gel base first allows one to obtain the greatest benefit from the oils as they are more evenly dispersed throughout the water and not allowed to immediately separate.
3. Bath Salts. Combine 3–10 drops essential oil with ¼–½ cup of bath salts or Epsom salts. Dissolve the salt mixture in warm bathwater before bathing.
4. Washcloth. When showering, add 3–6 drops of oil to a bath and shower gel base before applying to a washcloth and using to wash the body.
5. Body Sprays. Fill a small spray bottle with distilled water, and add 10–15 drops of your favorite oil blend or single oils. Shake well, and spray onto the entire body just after taking a bath or shower.

Auricular Internal Body Points



Bl: Bladder

CO: Cardiac Orifice

E: Esophogus

H: Heart

Kid: Kidney

LI: Large Intestine

Liv: Liver

Lu: Lungs

M: Mouth

Pan: Pancreas

Pr: Prostate

SI Small Intestine

Spl: Spleen

ST: Stomach

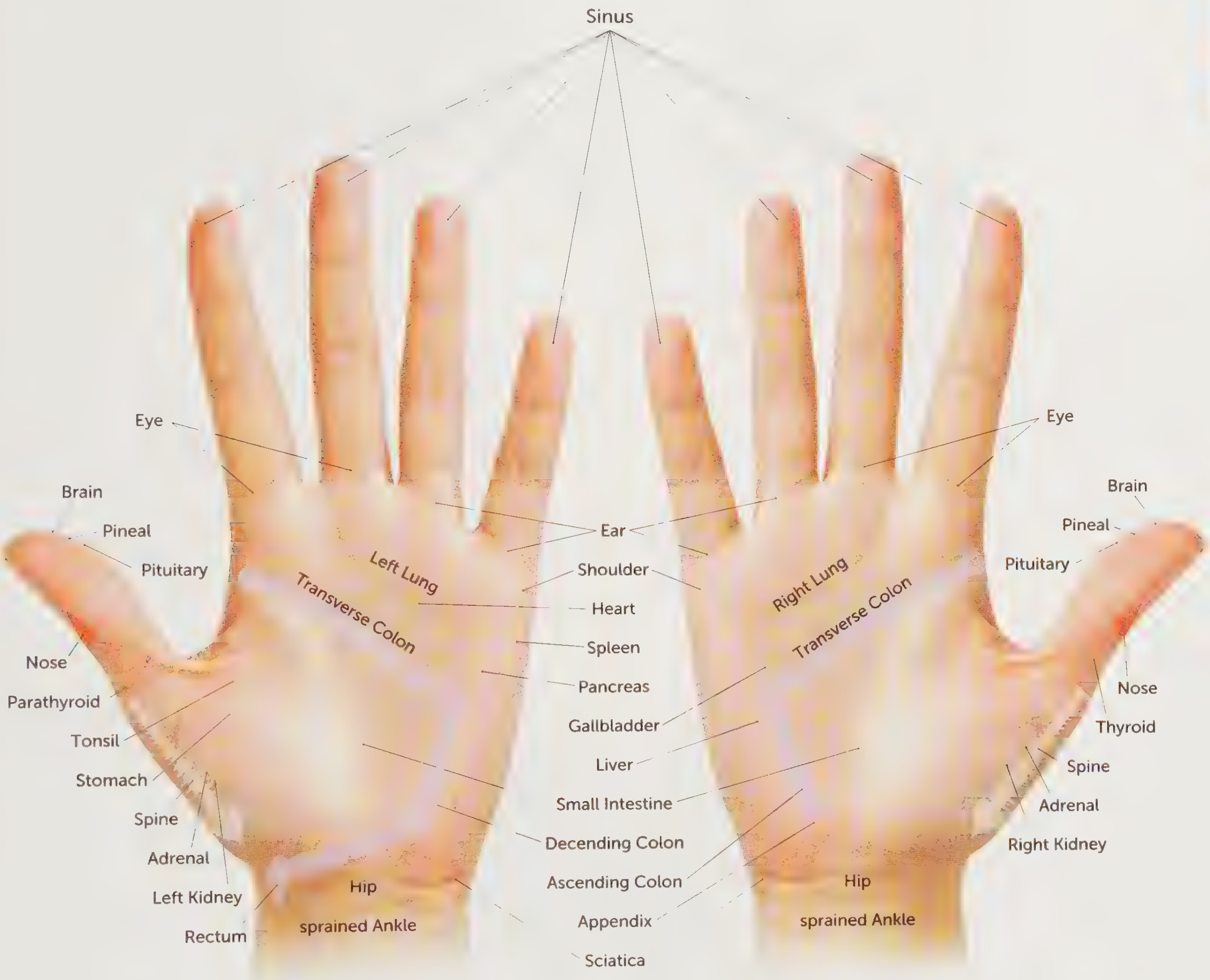
Tri: Triple Warmer

Ur: Ureter

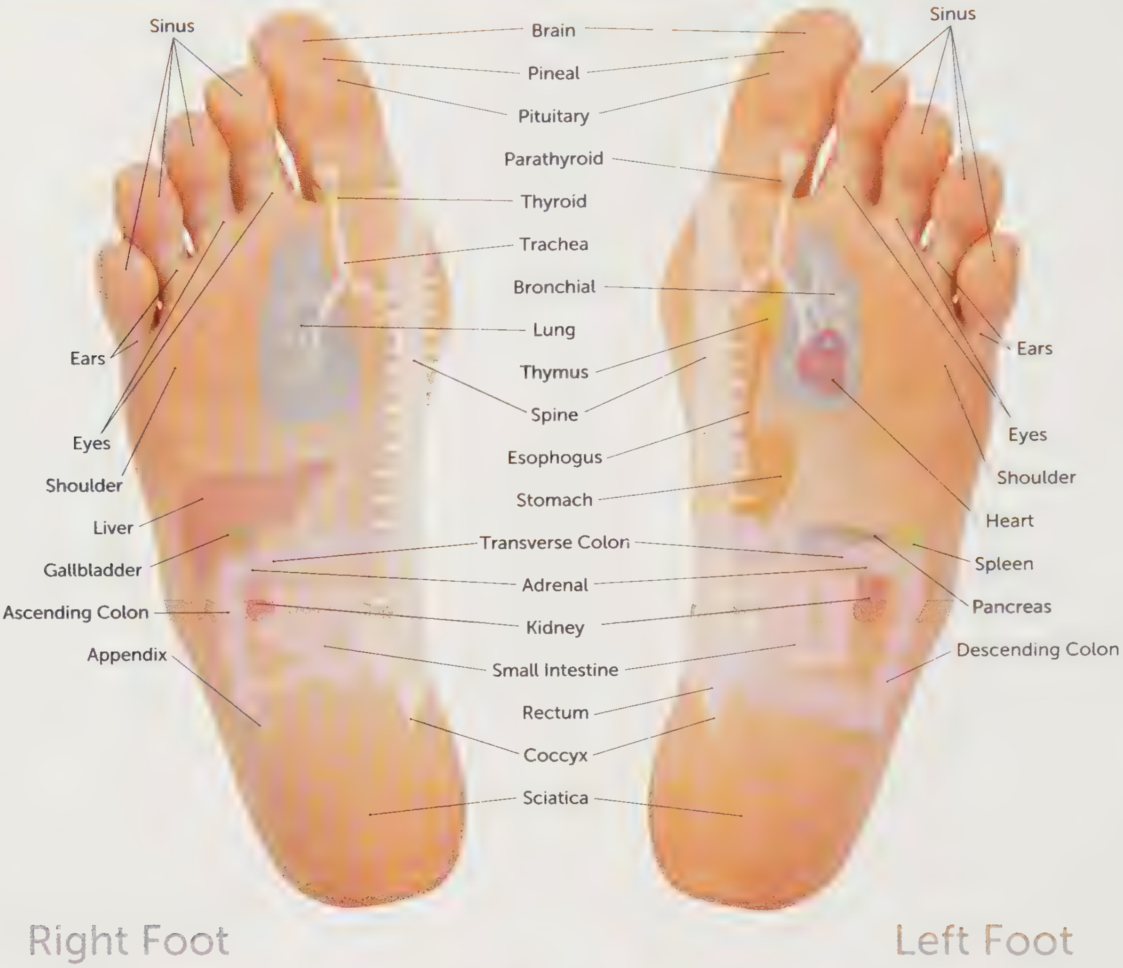
W: Windpipe/Trachea

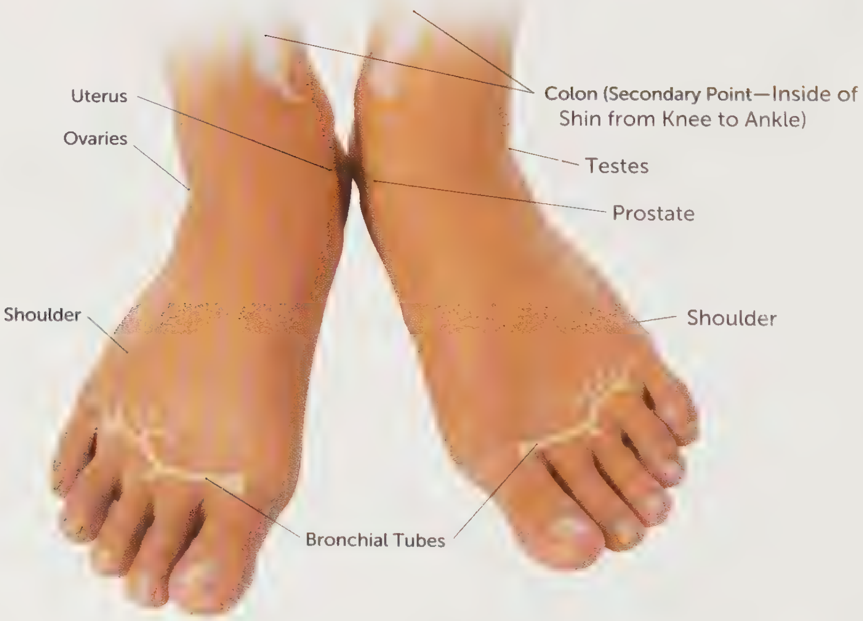
Reflex Therapy Hand Chart

Reflex points on this hand chart correspond to those on the feet. Occasionally the feet can be too sensitive for typical reflex therapy. Working with the hands will not only affect the specific body points but may also help to provide some pain relief to the corresponding points on the feet.



Reflex Therapy Feet Charts





Balancing Touch Massage Technique

This technique is a simple, yet effective, way that both beginners and experts alike can apply essential oils with meaningful results.

This effective technique utilizes eight individual essential oils and oil blends that have demonstrated profound effects on four conditions that constantly challenge the ability of the body's systems to function optimally: stress, increased toxin levels, inflammation, and autonomic nervous system imbalance.

This system is comprised of simple application methods that enable these powerful essential oils to reach the optimal areas within the body where they are able to help combat stress, enhance immune function, decrease inflammation, and balance the autonomic nervous system within the recipient.

Stress:

Stress refers to the many systemic changes that take place within the body as it responds to challenging situations. Stress comes not only from difficult, new, and pressured circumstances but also from the body being challenged to cope with things such as abnormal physical exertion, a lack of proper nutrients in the diet, disease-causing microorganisms, and toxic chemicals that make their way into the body. While the systems within a healthy body can typically deal with most short-term challenges, having constant or chronic stress on these systems can overly fatigue them, limiting their abilities to respond to future challenges.

Toxic Insult:

The body is constantly working to cope with a vast array of toxins that continually bombard it. These toxins can come from many different sources, including chemical-laden foods, pollution in the air and water, and pathogenic microorganisms that invade the body. As the environment of the world becomes increasingly saturated with toxins and a rising number of resistant pathogens, the cells, tissues, and systems of the body are forced to work harder to process and eliminate these threats in order to maintain health.

Inflammation:

Inflammation is an immune system response that allows the body to contain and fight infection or to repair damaged tissue. This response dilates the blood vessels and increases vascular permeability to allow more blood to flow to an area with injured or infected tissue. It is characterized by redness, swelling, warmth, and pain. While a certain amount of inflammation can be beneficial in fighting disease and healing injuries, chronic inflammation can actually further injure surrounding tissues or cause debilitating levels of pain.

Autonomic Imbalance:

The autonomic nervous system is comprised of nerves that are connected to the muscles organs, tissues, and systems that don't require conscious effort to control. The autonomic system is divided into two main parts that each have separate, balancing functions: the sympathetic nervous system and the parasympathetic nervous system. The sympathetic nervous system functions to accelerate heart rate, increase blood pressure, slow digestion, and constrict blood vessels. It activates the "fight or flight" response in order to deal with threatening or stressful situations. The parasympathetic nervous system functions to slow heart rate, store energy, stimulate digestive activity, and relax specific muscles.

Maintaining a proper balance within the autonomic nervous system is important for optimal body function and maintenance.

Oils Used in The Balancing Touch Technique:

For additional information on the oils and blends used in this technique, see the Single Essential Oils and Essential Oil Blends sections of this book.

Stress-Reducing Oils:

Grounding Blend: is an oil blend formulated from oils that are known to bring a feeling of calmness, peace, and relaxation. It can aid in harmonizing the various physiological systems of the body and promote tranquility and a sense of balance.

Lavender: has been used for generations for its calming and sedative properties.

Immune Enhancement Oils:

Melaleuca: has potent antifungal, antibacterial, and anti-inflammatory properties.

Protective Blend: is a blend of oils that have been studied for their strong abilities to kill harmful bacteria, mold, and viruses.

Inflammatory Response–Reducing Oils:

Massage Blend: is a blend of oils that were selected specifically for their ability to relax, calm, and relieve the tension of muscles, soothe irritated tissue, and increase circulation.

Soothing Blend: is a blend containing oils that are well known and researched for their abilities to soothe inflammation, alleviate pain, and reduce soreness.

Autonomic Balancing Oils:

Peppermint: has invigorating and uplifting properties.

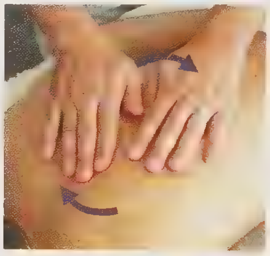
Orange: has antidepressant properties and is often used to relieve feelings of anxiety and stress. Its aroma is uplifting to both the body and mind.

Applying the Oils: Step One—Stress Reduction

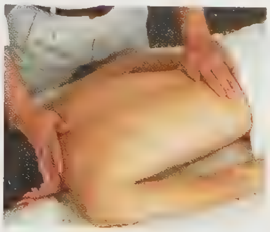
Grounding Blend:

Apply Oil: Apply Grounding Blend from the base (top) of the sacrum to the base of the skull, distributing the oil evenly along the spine. Use the pads of your fingers to lightly distribute the oils over the length of the spine.

Palm Circles and Connection: With the hands palms down and fingers overlapping, make three clockwise circles over the heart area; hold the hands briefly in that area, and then slide one hand to the base of the sacrum and the other hand to the base of the skull.



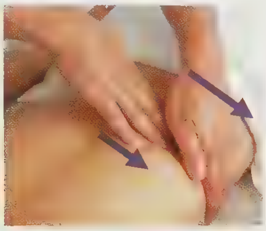
Hold as long as necessary to form a connection, balance, and feeling of trust.



Lavender

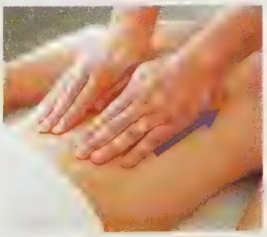
Apply Oil: Apply lavender oil from the base of the sacrum to the base of the skull, distributing the oil evenly along the spine. Use the pads of your fingers to lightly distribute the oils over the length of the spine.

Alternating Palm Slide: Standing at the recipient's side, place both hands next to the spine on the opposite side of the back at the base of the sacrum, with the palms down and the fingers pointing away from you. Slide one hand away from the spine toward the side using a mild pressure; then repeat using alternating hands. Continue with this sliding motion as you slowly work your hands from the base of the sacrum to the base of the skull.

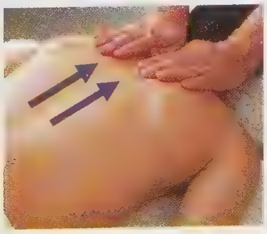


Repeat this step two more times on one side of the back; then move around the person to the opposite side, and repeat three times on that side.

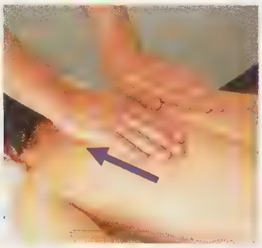
5–Zone Activation: Standing at the head, place both hands together with the fingertips on either side of the spine at the base of the sacrum.



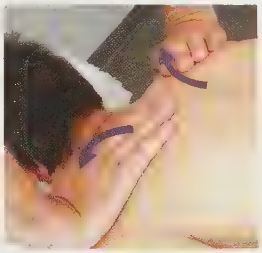
Using a medium downward pressure, pull the hands toward the head through zone 1; then continue through the neck and up to the top of the head.



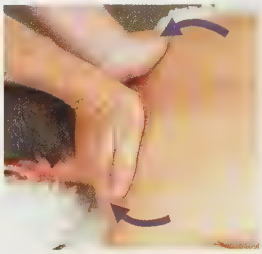
Return the hands to the base of the sacrum, and pull the hands in a similar manner through zone 2 to the shoulders.



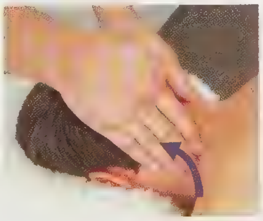
When the hands arrive at the shoulders, push the hands out to the points of the shoulders.



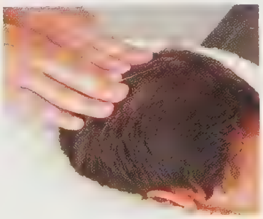
Rotate the hands around the points so that the fingers are on the underside of the shoulders.



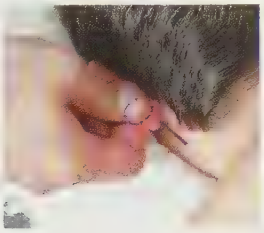
Pull the hands back to the neck, and continue up to the top of the head.



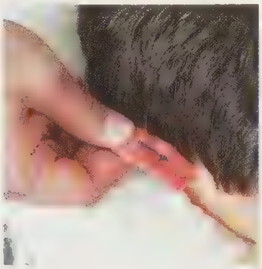
Repeat the steps for zone 2 through zones 3, 4, and 5, ending each pull at the top of the head.



Auricular Stress Reduction: Grip each earlobe between the thumb and forefinger; using gentle pressure, work your fingers in small circles along the ear to the top.



Slide your thumbs with gentle pressure along the backs of the ears returning to the lobes. Repeat this ear massage 3 times.



Step Two—Immune Enhancement

Melaleuca

Apply Oil: Apply melaleuca oil from the base of the sacrum to the base of the skull, distributing the oil evenly along the spine. Use the pads of your fingers to lightly distribute the oils over the length of the spine.

Alternating Palm Slide: Perform as outlined under Lavender above.

5–Zone Activation: Perform as outlined under Lavender above.

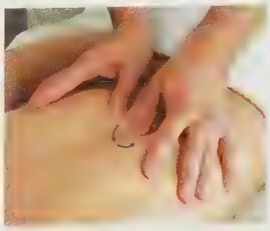
Protective Blend

Apply Oil: Apply Protective Blend from the base of the sacrum to the base of the skull, distributing the oil evenly along the spine. Use the pads of your fingers to lightly distribute the oils over the length of the spine.

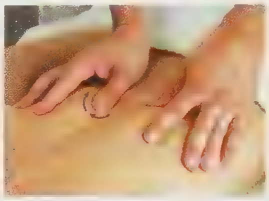
Alternating Palm Slide: Perform as outlined under Lavender above.

5–Zone Activation: Perform as outlined under Lavender above.

Thumb Walk Tissue Pull: Place the hands with palms down on either side of the spine at the base of the sacrum, with the thumbs in the small depression between the spine and the muscle tissue. Using a medium pressure, move the pads of the thumbs in small semi-circles, pulling the tissue up, away, and then down from the spine.



Gradually move each thumb up the spine in alternating fashion until you reach the base of the skull. Repeat this step two more times.



Step Three—Inflammation Reduction

Massage Blend:

Apply Oil: Apply Massage Blend from the base of the sacrum to the base of the skull, distributing the oil evenly along the spine. Use the pads of your fingers to lightly distribute the oils over the length of the spine.

Alternating Palm Slide: Perform as outlined under Lavender above.

5–Zone Activation: Perform as outlined under Lavender above.

Deep Blue:

Apply Oil: Apply Soothing Blend from the base of the sacrum to the base of the skull, distributing the oil evenly along the spine. Use the pads of your fingers to lightly distribute the oils over the length of the spine.

Alternating Palm Slide: Perform as outlined under Lavender above.

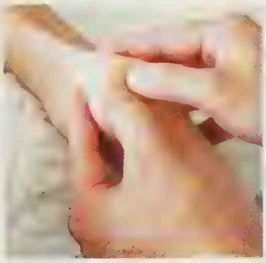
5-Zone Activation: Perform as outlined under Lavender above.

Thumb Walk Tissue Pull: Perform as outlined under Protective Blend above.

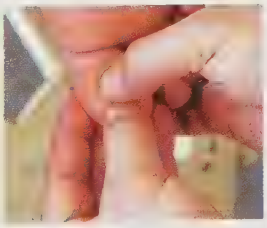
Step Four—Autonomic Balance

Orange and Peppermint

Apply Oils to Feet: Place drops of orange oil on the palm of your hand, and apply this oil evenly over the entire bottom of the foot. Apply peppermint oil in the same manner. Hold the foot with both hands. Beginning in region 1 at the point of the heel and using a medium pressure, massage the foot using first the pad of one thumb and then the pad of the other thumb. Continue this process, alternating thumbs, back and forth through region 1 to thoroughly relax all of the tissue in that region. Repeat through regions 2 and 3.

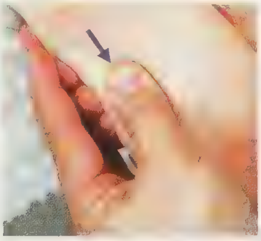


Beginning in zone 1 at the point of the heel, walk the pads of the thumbs through zone 1 using a medium pressure. Continue this process using alternating thumbs and working in a straight line through zone 1 to the tip of the big toe to thoroughly stimulate all of the tissue in that zone.



Repeat through zones 2–5.

Using a medium pressure with the pad of your thumb, pull the tissue in zone 1—beginning at the point of the heel and ending at the toe. Repeat two additional times through zone 1, using alternate thumbs each time. Repeat this tissue pull process in zones 2–5 on the same foot.



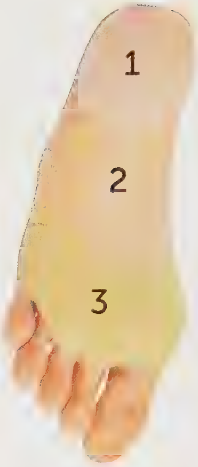
Repeat this entire process, beginning with the application of orange oil, on the opposite foot.

Apply Oils to Back: Apply first orange and then peppermint oils from the base of the sacrum to the base of the skull, distributing the oils evenly along the spine. Use the pads of your fingers to lightly distribute the oils over the length of the spine.

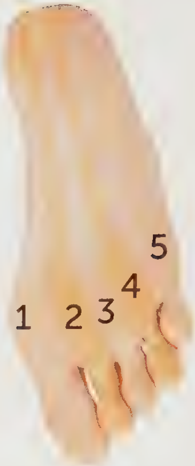
Alternating Palm Slide: Perform as outlined under Lavender above.

Lymphatic Stimulation:

Gentle Body Motion: Standing at the feet, grasp the feet so that the palms of your hands are against the soles of the recipient's feet and your arms are in a straight line with the recipient's legs. Use a repeated, gentle pressure on the feet that allows the recipient's body to translate (move) back and forth naturally on the table. Repeat this process for two or three 15–30 second intervals.

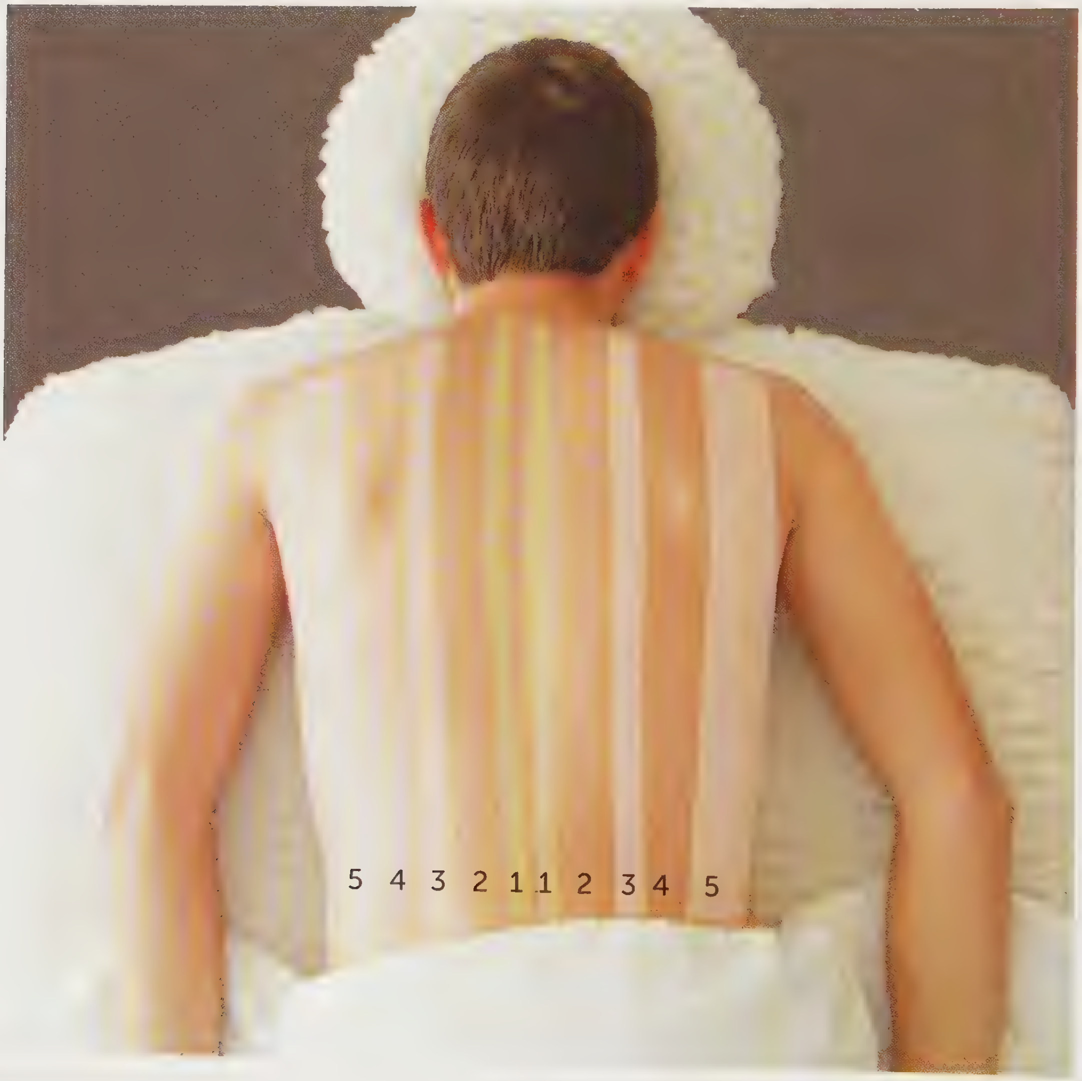


Feet Regions



Feet Zones

Zones of the Back and Head



Autonomic Nervous System

Sympathetic Nervous System

- Dilates Pupils
- Inhibits Salivation
- Accelerates Heart Rate
- Dilates Bronchi
- Dilates Skeletal Muscle Blood Vessels to Increase Blood Flow to Muscles
- Constricts Other Blood Vessels to Increase Overall Blood Pressure
- Inhibits Gastric Juice Production
- Stimulates Secretion of Epinephrine and Norepinephrine
- Inhibits Digestive Process
- Contracts Rectum
- Relaxes Bladder Muscles

Parasympathetic Nervous System

- Constricts Pupils
- Stimulates Salivation
- Slows Heart Rate
- Constricts Bronchi
- Constricts Skeletal Muscle Blood Vessels to Decrease Blood Flow to Muscles
- Dilates Other Blood Vessels to Decrease Overall Blood Pressure
- Stimulates Gastric Juice Production
- Stimulates Digestive Process
- Relaxes Rectum
- Contracts Bladder Muscles

Essential Oil Application Methods: Aromatic

Aromatic application involves inhaling either a fine mist of the oil or a vapor of volatile aromatic components that have evaporated from the oil. Inhalation of the oil, or the aroma from the oil, can be a powerful way to affect memory, hormones, and emotions through the olfactory system (see the following page for further discussion on this topic). Inhalation of oils can also be a quick and effective way to affect the sinuses, larynx, bronchial tubes, and lungs.

Diffusion:

The easiest and simplest way of putting a fine mist of the whole oil into the air for inhalation is to use a nebulizing diffuser. A cool-air nebulizing diffuser uses room-temperature air to break the oils into a micro-fine mist that is then dispersed into the air, covering hundreds of square feet in seconds. An ultrasonic nebulizer uses ultrasonic vibrations to convert oil mixed with water into a fine water vapor. When diffused in this manner, the oils, with their oxygenating molecules, will then remain suspended for several hours to freshen and improve the quality of the air. The antiviral, antibacterial, and antiseptic properties of the oils kill bacteria and help to reduce fungus and mold.

Other diffusers may use either cool air blown through a pad containing the oil or a low level of heat to quickly evaporate the volatile oil molecules into the air. This type of diffusion is beneficial but may not be as effective for some therapeutic uses as nebulizing the whole oil can be.

Diffusers that use an intense heat source (such as a light bulb ring or candle) may alter the chemical makeup of the oil and its therapeutic qualities and are typically not recommended.

When diffused, essential oils have been found to reduce the amount of airborne chemicals and to help create greater physical and emotional harmony. The greatest therapeutic benefit is received by diffusing oils for only 15 minutes out of an hour so that the olfactory system has time to recover before receiving more oils. The easiest way to do this is by using a timer that can be set to turn the diffuser on in 15-minute increments over a 24-hour period.

Direct Inhalation:

Direct inhalation is the simplest way to inhale the aroma of an essential oil in order to affect moods and emotions. Simply hold an opened essential oil vial close to the face, and inhale. You may also apply 1–2 drops of oil on your hands, cup your hands over your mouth and nose, and inhale.

Cloth or Tissue:

Put 1–3 drops of an essential oil on a paper towel, tissue, cotton ball, handkerchief, towel, or pillow case; hold it close to your face, and inhale.

Hot Water Vapor:

Put 1–3 drops of an essential oil into hot water, and inhale. Again, heat may reduce some of the benefits.

Vaporizer or Humidifier:

Put oil in a vaporizer or a humidifier. The cool mist types are best, since heat reduces some of the benefits. There are some commercially-available diffusers that utilize ultrasonic vibration to vaporize water into a cool mist. These work well with essential oils since they produce a very fine mist that helps suspend the oil particles in the air for extended periods of time.

Fan or Vent:

Put oil on a cotton ball, and attach it to ceiling fans or air vents. This can also work well in a vehicle since the area is so small.

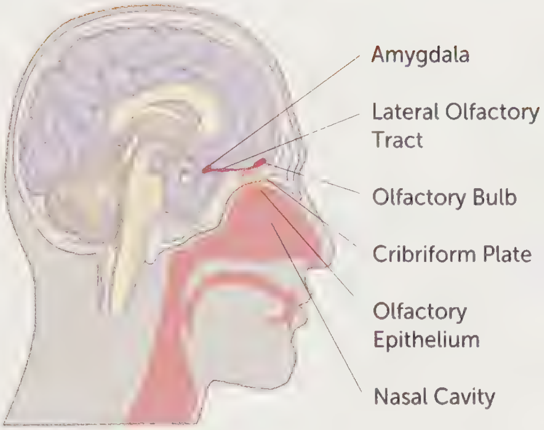
Perfume or Cologne:

Wearing the oils as a perfume or cologne can provide some wonderful emotional support and physical support as well—not just a beautiful fragrance. Apply 1–2 drops of oil to the wrists or neck, or create a simple perfume or cologne by dissolving 10–15 drops essential oil in 20 drops alcohol (such as vodka, or a perfumer's alcohol) and combining this mixture with 1 tsp distilled water. Apply or mist on wrists or neck.

Nose and Olfactory System

When an odor molecule is inhaled into the nasal cavity, it is first sensed by the olfactory cells that are part of the olfactory epithelium. The olfactory epithelium is comprised of two small patches of olfactory nerves (each about 1 cm square) that lie on the roof of the nasal cavity. The olfactory cells within the olfactory epithelium are specialized nerve cells that extend cilia (small hair-like structures) from their dendrites into the nasal cavity. Each of these cilia have receptors that bind to a specific type of odor molecule. When an odor molecule binds to a receptor on the cilia of an olfactory cell, the olfactory cell passes the signal through the cribriform plate (the bone at the roof of the nasal cavity) to the olfactory bulb. The olfactory bulb, in turn, sends those impulses along the lateral olfactory tract to five different structures in the brain, including the amygdala (which is responsible for storing and releasing emotional trauma), the anterior olfactory nucleus (which helps process smells), the olfactory tubercle, the piriform cortex (which passes the signal on to other structures that create a conscious perception of the odor), and the entorhinal cortex (which processes stimuli before sending them on to the hippocampus, the long-term memory center of the brain). Anatomically, the olfactory system is closely connected to the limbic system of the brain. The limbic system includes structures such as the hippocampus (long-term memory), the amygdala (emotions), the hypothalamus (autonomic nervous system and hormones), and the cingulate gyrus (regulates blood pressure, heart rate, and attention). It is due to the fact that the olfactory system is so closely connected to the limbic system that essential oils have such profound physiological and psychological effects.

Olfactory System



The Art of Blending

Blending essential oils is an art and usually requires a little bit of training and experimentation. If you choose to create your own blends, it is important to understand that the order in which the oils are blended is key to maintaining the desired therapeutic properties in a synergistic blend. An alteration in the sequence of adding selected oils to a blend may change the chemical properties, the fragrance, and, thus, the desired results. The "Blend Classification" and "Blends With" listings under each oil in the Single Oils section of this book should assist one in the blending process. In general, oils that are from the same botanical family usually blend well together. In addition, oils with similar constituents also mix well.

Another method utilizes four blending classifications. The following information explains the characteristics of each classification, the order in which they should be added to the blend (i.e. Personifiers first, Enhancers second, Equalizers third, and Modifiers fourth), and the amount of each type of oil as a percentage of the blend.

1st—The Personifier (1–5% of blend) oils have very sharp, strong, and long-lasting fragrances. They also have dominant properties with strong therapeutic action.

Oils in this classification may include birch, cinnamon, clary sage, clove, coriander, ginger, helichrysum, orange, peppermint, rose, wintergreen, and ylang ylang.

2nd—The Enhancer (50–80% of blend) oil should be the predominant oil as it serves to enhance the properties of the other oils in the blend. Its fragrance is not as sharp as the personifier's and is usually of a shorter duration.

Oils in this classification may include basil, bergamot, birch, eucalyptus, frankincense, geranium, grapefruit, lavender, lemon, lemongrass, marjoram, melaleuca, orange, oregano, rose, rosemary, thyme, and wintergreen.

3rd—The Equalizer (10–15% of blend) oils create balance and synergy among the oils contained in the blend. Their fragrance is also not as sharp as the personifier's and is of a shorter duration.

Oils in this classification may include basil, bergamot, cypress, fennel, white fir, frankincense, geranium, ginger, lavender, lemongrass, marjoram, melaleuca, myrrh, oregano, rose, sandalwood, and thyme.

4th—The Modifier (5–8% of blend) oils have a mild and short fragrance. These oils add harmony to the blend.

Oils in this classification may include bergamot, coriander, eucalyptus, fennel, grapefruit, lavender, lemon, myrrh, rose, sandalwood, and ylang ylang.

Depending upon the topical application of your blend, you will want to add some carrier/base oil. When creating a therapeutic essential oil blend, you may want to use about 28 drops of essential oil to ½ oz of fractionated coconut oil. When creating a body massage blend, you will want to use a total of about 50 drops of essential oils to 4 oz of fractionated coconut oil. Remember to store your fragrant creations in dark-colored glass bottles.

As essential oils can vary in thickness, the following are approximate measurements:

25–30 drops	= 1/4 tsp	= 1–2 ml	= 5/8 dram
45–50 drops	= 1/2 tsp	= 2–3 ml	= 1 dram
75–80 drops	= 3/4 tsp	= 3–4 ml	= 1/8 oz
100–120 drops	= 1 tsp	= 5 ml	= 1/6 oz
160 drops	= 1½ tsp	= 6–8 ml	= 1/4 oz
320–400 drops	= 3 tsp	= 13–15 ml	= 1/2 oz
600–650 drops	= 6 tsp	= 25–30 ml	= 1 oz

Learn to trust your nose, as it can help you decide which classification an oil should be in. More detailed information about these methods of blending is beyond the scope of this revision of the book. For additional information on using these classifications in your blending, we highly recommend Marcel Lavabre's *Aromatherapy Workbook*. Another very simple book about blending, with recipes and easy-to-follow guidelines, is Mindy Green's *Natural Perfumes*, which uses perfume notes (top, middle, base), odor, and odor intensity to help guide you in making your own fragrant blend creations (refer to the chart on the following page).

Natural Perfume Mixing Guide

Perfume mixing, like music, is made from notes. When used in harmony, these notes complement and accent each other to create an enjoyable aroma.

Top Notes: These are the fastest evaporating oils and the most immediately noticeable scents in a perfume. They diffuse quickly and tend to be light, crisp, and penetrating.

Middle Notes: Also called heart notes, these should make up the main body of the blend. They soften and round out the fragrance to harmonize the mixture.

Base Notes: The scents from these oils are usually not recognized until several minutes after application. Base note fragrances tend to become more pleasant over time and, when used in proper proportion, can give depth to the blend.

Essential Oil	Scent	Intensity
Top Notes		(5–20% of the blend)
Orange	Fresh, citrusy, fruity, sweet, light	1
Bergamot	Sweet, lively, citrus, fruity	2
Grapefruit	Clean, fresh, bitter, citrusy	2
Lemon	Sweet, sharp, clear, citrusy	3
Lemongrass	Grassy, lemony, pungent, earthy	4
Top to Middle Notes		(20–80% of the blend)
Basil	Spicy, anise-like, camphorous, lively	4
Fennel	Sweet, somewhat spicy, licorice-like	4
Middle Notes		(50–80% of the blend)
Lavender	Floral, sweet, balsamic, slightly woody	2
Cypress	Fresh, herbaceous, slightly woody	3
Eucalyptus	Slightly camphorous, sweet, fruity	3
Fir	Fresh, woody, earthy, sweet	3
Geranium	Sweet, green, citrus-rosy, fresh	3
Helichrysum	Rich, sweet, fruity, slightly honey-like	3
Marjoram	Herbaceous, green, spicy	3
Middle Notes (continued)		(50–80% of the blend)
Melaleuca	Medicinal, fresh, woody, earthy	3
Rosemary	Strong, camphorous, slightly woody	3
Ginger	Sweet, spicy-woody, warm, fresh, sharp	4
Thyme	Fresh, medicinal, herbaceous	4
Oregano	Herbaceous, sharp	5
Peppermint	Minty, sharp, intense	5
Middle to Base Notes		(20–80% of the blend)
Clary Sage	Spicy, hay-like, sharp, fixative	3
Rose	Floral, spicy, rich, deep, sensual, green	3
Ylang Ylang	Sweet, heavy, narcotic, tropical, floral	5
Base Notes		(5–20% of the blend)
Frankincense	Rich, deep, warm, balsamic, sweet	3
Sandalwood	Soft, woody, sweet, earthy, balsamic	3
Myrrh	Warm, earthy, woody, balsamic	4
Vanilla	Sweet, balsamic, heavy, warm	4
Vetiver	Heavy, earthy, balsamic, smoky	5

This chart was compiled from the book *Natural Perfumes* by Mindy Green and from various other sources. It lists essential oils by note types in order of odor intensity—1 being the lightest and 5 being the strongest. Please see the previous page for more information on this blending system.

Essential Oil Application Methods: Internal

Internal use is the process of consuming or otherwise internalizing an essential oil into the body. Only pure, therapeutic-grade essential oils should be used for internal consumption, as other essential oils on the market may be diluted or processed using harmful chemicals.

The U.S. Food and Drug Administration (FDA) has approved some essential oils generically for internal use and given them the following designations: GRAS (Generally Recognized As Safe for human consumption), FA (Food Additive), or FL (Flavoring Agent). These designations are listed for each oil that is safe for human consumption in the Single Essential Oils section of this book under Oral Use As Dietary Supplement. Oils without this designation should never be used internally without first consulting a certified health care professional.

—Understanding GRAS, FA, and FL Status

In 1938, the United States Congress passed The Federal Food, Drug, and Cosmetic Act (FFDCA), giving authority to the FDA to regulate the food, drug, and cosmetic industries. To increase the FDA's regulatory authority, the Food Additives Amendment to the FFDCA was added in 1958. This amendment requires all food additives to be approved by the FDA. To eliminate unneeded and duplicate testing, the FDA also released a list of substances considered Generally Recognized As Safe (GRAS) for human consumption. The designation of a substance as GRAS means that the substance, when intentionally added to food under the conditions of its intended use, is recognized by competent experts as being safe. Substances obtain GRAS status through scientific procedures or through experience based on common use in food before 1958.

Substances designated as GRAS are listed in the US Code of Federal Regulations (CFR). Most essential oils that are considered GRAS can be found under 21 CFR § 182.20. This section of the CFR was completed shortly after the passing of the 1958 Food Additives Amendment. Additionally, some GRAS substances are listed under section 184, including clove oil (found under 21 CFR § 184.1257) and dill oil (found under 21 CFR § 184.1282). Section 184 was added in the 1970s as part of the FDA's comprehensive review of GRAS substances.

Not all essential oils are GRAS substances. Some essential oils, like birch oil and cedarwood oil, are not recommended for internal use. Other essential oils, including frankincense oil and melaleuca oil, have been granted Food Additive (FA) or Flavoring Agent (FL) status. Food additives are used to maintain food safety, freshness, and nutritional value. Ingredients added to foods to improve the aroma or quality of taste are considered flavoring agents. A list of substances, including essential oils, that maintain Food Additive and Flavoring Agent status can be found under 21 CFR § 172.510.

Essential oils with GRAS, FA, or FL status are considered by the FDA as safe to consume and can be used internally via several routes of administration.

Common Essential Oils Designated at GRAS:	Angelica, Anise, Basil, Bay, Bergamot, Black Pepper, Chamomile, Cardamom, Cassia, Celery, Cinnamon, Citronella, Citrus (all), Clary Sage, Coriander, Cumin, Fennel, Geranium, Ginger, Grapefruit, Helichrysum, Jasmine, Juniper Berry, Lavender, Lemon, Lemongrass, Lime, Mandarin, Marjoram, Melissa, Neroli, Orange, Oregano, Palmarosa, Peppermint, Rose, Rosemary, Sage, Spearmint, Tangerine, Thyme, Vanilla, Ylang Ylang
Common Essential Oils Designated at FA/FL:	Dill, Frankincense, Melaleuca, Myrrh, Patchouli, Sandalwood, Vetiver, White Fir

Sublingual

One of the most effective ways to take essential oils internally is sublingually, or by placing a drop or two of an essential oil under the tongue. Because the blood capillaries are so close to the surface of the tissue under the tongue, many essential oil constituents are able to pass directly into the bloodstream, from which they can then quickly travel to the different areas of the body where they are needed. This method provides a faster therapeutic effect than oral administration (Turley, 2009). The sublingual method enables rapid absorption and bypasses the first-pass drug metabolism in the liver, meaning that a higher dosage of chemical constituents is delivered to the body than by most other internal routes (Brenner et al., 2009). Low dosages should be given to avoid irritation to the tissue and to ensure that the essential oil is not washed away by saliva or swallowed before absorption (Brenner et al., 2009).

Capsules

One common way to take essential oils internally is by placing 1–10 drops of essential oil inside an empty capsule, closing the capsule, and then swallowing it. It is also common to dilute the pure essential oil by filling the remainder of the capsule with olive oil before closing and swallowing. This can be an effective way to take oils internally that have a less desirable taste.

Beverage

An easy way to take essential oils internally is by adding them to a beverage. This is done by placing 1 drop of essential oil in 1–4 cups of rice milk, almond milk, or water, before drinking.

Cooking

Essential oils can easily be incorporated into your cooking, as long as you remember that they are very concentrated. Usually only 1 drop is necessary, and sometimes even less. Use a toothpick to help control the addition of smaller amounts of oil by dipping the toothpick into the oil (more oil on the toothpick = stronger flavor, etc.) and then stirring it into the food. For more information on cooking with essential oils, see the Essential Lifestyle section on page 60.

Vaginal Insertion

There are three main ways to insert essential oils vaginally. First, the oils can be diluted in 2–3 tsp of a carrier oil, inserted using a vaginal syringe, and then held in place using a tampon. Alternately, the oils can be diluted in 1–2 tsp of carrier oil, and then a tampon can be used to soak up the mixture. This is then inserted and retained, typically all day or overnight. The third method is to add a few drops of oil to warm water and then to use a vaginal syringe to irrigate and rinse internally using the oil and water mixture. In each case it is important to ensure that the oil is evenly dispersed to avoid irritation (Tisserand et al., 2014).

Rectal Insertion

Rectal oil insertion is often recommended to aid various respiratory problems and other internal conditions. Two ways are often recommended for implanting the oils rectally. First, a rectal syringe can be used to deposit the oils into the rectum. Second, the oils can be placed in capsules and the capsules be inserted into the rectum. The oils are typically retained inside the rectum for several hours or overnight. Assure that the oil is evenly dispersed to avoid irritation. Rectal insertion is an important method that can produce systemic effects at a slow rate of absorption (Schellack, 2011). Rectal insertion should be used when a higher systemic concentration is needed. This higher concentration is possible because rectal insertion avoids the first-pass metabolism in the liver (Brenner et al., 2009). Diarrhea causes the rectal route to be a less effective route of administration (Schellack, 2011).

Daily Tips for An Essential Lifestyle

Essential oils can be used in many different ways throughout the day. Pure, therapeutic-grade essential oils are a safe, natural alternative to many of the artificial chemicals that are often used in the typical daily routine. While by no means comprehensive, this section outlines a few tips on how to use essential oils as part of everyday living. See the Personal Usage Guide chapter for supporting research and for more ways essential oils and blends can be used. See the Supplements and the Essential Living chapters for additional essential oil–inspired supplements and natural personal care items that can be used every day as well.

Essential Oil Cooking Tips

Essential oils are great for adding flavor or spice to your favorite meal. Essential oils can impart the natural, fresh taste of fresh herbs and spices but are more concentrated and can easily be used year-round when fresh herbs are not available. Essential oils are also a great substitute for dried or powdered spices, since dried spices have lost many of the liquid essential oils that impart much of the flavor and aroma found in the natural plant. Additionally, while many commercially available flavoring extracts use artificial flavors or are diluted in alcohol or propelyne glycol, essential oils provide a concentrated, pure flavor that is extracted naturally from the plant.

Essential Oil Cooking Tips:

Many great essential oil cookbooks are available that can help you get started using essential oils in cooking. But it is fairly easy (and a lot of fun) to substitute essential oils into your own favorite recipes in place of spices, flavoring extracts, and fresh or dried herbs. There are a few tips to keep in mind when substituting essential oils in recipes:

Amount to Use: Essential oils are extremely concentrated, so you won't use as much oil as you would dried spices or extracts. Start with a drop or two instead of a teaspoon; then adjust the amount according to taste.

When to Add: The preferred time to add essential oils is at the end of cooking or when the food has cooled a bit. This is so the volatile oils don't evaporate out and also so the heat of cooking doesn't affect the oil's natural constituents. If you need to add the oils sooner in the recipe, you may need to add a bit more oil to account for any oil that will evaporate during cooking.

Essential Oils Recommended for Cooking:

Sweet Spice Oils (for sweet dishes and desserts): cardamom, cassia, cinnamon, clove, fennel, ginger, peppermint.

Savory Spice Oils (for savory dishes, main courses, and appetizers): basil, black pepper, cardamom, cilantro, coriander, fennel, ginger, lavender, marjoram, oregano, rosemary, thyme.

Citrus Oils (add a tangy citrus zip to main dishes, desserts, drinks, and more): bergamot, grapefruit, lemon, lemongrass, lime, orange.

Below are a few sample recipes to get you started using essential oils in your everyday cooking!

Recipes

Luscious Lemon Bars

2 c. flour
½ c. sugar
1 c. butter
¼ tsp. salt
4 eggs
6 Tbs. flour
1½ c. sugar
1 tsp. baking powder
Dash of salt
½ c. water
½ c. lemon juice
3 drops lemon ess. oil
1 Tbs. powdered sugar
Lemon zest (optional)

Preheat oven to 350° F. Mix together flour, sugar, and salt. Cut in the butter until the dough reaches a fine crumb consistency. Press the dough into the bottom of a 9" x 13" pan. Bake for 20 minutes till golden. While crust is baking, beat eggs in a large mixing bowl. In a separate dish, stir together flour, sugar, baking powder, and salt. Add flour mixture to eggs, and stir till smooth. Gradually stir in lemon juice, water, and lemon oil. Pour mixture over baked crust, and return to the oven. Bake 30 minutes or until set. Allow to cool completely, and sift powdered sugar over the top. Garnish with zest if desired. *Substitute orange oil and orange juice to make orange bars.

Rosemary Roasted Red Potatoes

16–24 red potatoes, washed and dried
½–3/4 c. all-natural ranch dressing
1 drop ea. rosemary and oregano essential oils
2 Tbs. garlic powder
1–2 tsp. smoked paprika
Sea salt and black pepper to taste

Preheat oven to 450° F. Dice potatoes into 1" pieces and place in 9" x 13" pan. Blend essential oils with ranch dressing and toss with potatoes to coat. Sprinkle potato mixture with garlic, paprika, salt, and pepper. Cover with aluminum foil, and bake for 25–40 minutes. Remove foil, stir potatoes, and bake uncovered for 15–20 minutes, stirring once more, until golden.

Lemon Tarragon Dressing

1 Tbs. fresh tarragon diced, or 1 tsp. dried tarragon
1 Tbs. fresh or 1 tsp. dried basil leaves
1 c. organic, cold-pressed olive oil
Dash of black pepper
Dash of red pepper
6 drops lemon essential oil

Mix well, and drizzle on salad or fish or anything! Keep unused portion in the fridge.

Strawberry Citrus Breakfast Ice Cream*

¼ ripe avocado
1 c. frozen strawberries
2 Tbs. plain yogurt
1 Tbs. honey or agave
1 drop ea. orange and lime essential oils

Place all ingredients minus oils into a food processor, and puree on high. Remove from food processor, and stir in oils. Serve immediately. *Prepare the night before and freeze in ice-pop molds for a quick, on-the-go breakfast.

Creamy, Creamless, Raw, Tomato Soup*

6 ripe tomatoes, seeded and chopped
½ c. water
1 tsp. minced garlic (1 clove)
½ tsp. onion powder
1 tsp. sea salt
1 ripe avocado, chopped
2 Tbs. extra-virgin olive oil
2 drops basil essential oil

Place tomatoes, water, garlic, onion powder, and salt in blender, and blend until smooth. Add the avocado and olive oil, and blend again until smooth. Pour soup into a ceramic or wooden bowl, and add basil oil, stirring to combine. Serve immediately. For a chilled soup, refrigerate for 2 hours. For warm soup, heat over stove.

Peppermint Healthy Fudge*

1½ c. coconut oil
1¼ c. agave
1 c. organic cocoa powder
½ tsp. sea salt
1/8 scraped out vanilla bean (or 1 tsp. vanilla extract)
1–2 drops peppermint essential oil

Warm coconut oil until liquid. Combine all ingredients in blender, and blend until smooth. Pour into baking dish and spread evenly. Place in fridge to set up; then cut and enjoy.

*These recipes were adapted from *The Slimmed and Sassed Cookbook* by Natalie Albaugh & Kristyan Williams, ©2011. Used with permission.

Sleeping/Relaxing and Waking Up/Energizing

Essential oils are perfect for helping soothe and calm the mind and body at the end of a stressful day. Unlike synthetic sleep aids that can have unwanted side effects, pure essential oils are a natural way to help the mind and body relax.

Soothing Essential Oils:

Soothing Oils: lavender, Calming Blend, ylang ylang, Roman chamomile, clary sage, orange, Invigorating Blend, vetiver, geranium, melissa, sandalwood, bergamot, rose.

Sleeping/Relaxation Tips:

Diffusion: Diffuse soothing essential oils or blends to help you feel calm and relaxed before going to sleep.

Pillow: Place a drop or two of a soothing essential oil or blend on a pillow or stuffed animal before you sleep to help calm your mind and body.

Linen Spray: Make a soothing linen spray by mixing 5–6 drops of a soothing essential oil or blend with 1 oz. water in a small misting spray bottle. Shake, and spray lightly onto pillows, sheets, blankets, curtains, or into the air. (Note: Since some essential oils can clog spray bottles, it may help to dissolve the essential oil in 1 tsp. of grain alcohol before adding water to the spray bottle.)

Relaxing Bath: Mix 1–3 drops of a soothing essential oil with bath salts or directly in warm bathwater for a relaxing bath.

Essential oils can also help invigorate and energize the body in the morning or whenever you feel tired and lethargic—without the addictive rise/crash cycle and other side effects that come with many energy drinks and other caffeinated beverages.

Invigorating Essential Oils:

Invigorating Oils: peppermint, eucalyptus, white fir, lemon, basil, wintergreen, thyme.

Energizing/Invigorating Tips:

Difusion: Diffuse an invigorating oil in the morning. Some individuals like to use a diffuser or appliance timer to start their diffuser a few minutes before their alarm clock goes off to help the body begin to wake up naturally.

Morning Beverage: Add a few drops of peppermint, lemon, or orange to water, a fresh fruit/vegetable smoothie, or another healthy beverage.

Invigorating Shower: Place a few drops of an energizing essential oil or blend on the floor of a shower or in a bath and shower gel for an invigorating morning shower.

Bath and Shower Tips

Using essential oils in the bath or shower instead of products with artificial perfumes and fragrances allows one to simultaneously enjoy the topical and aromatic benefits of an essential oil or blend.

Bath and Shower Tips

Bathwater: Add 3–6 drops of oil to the bathwater while the tub is filling. Because the individual oils will separate as the water calms down, the skin will quickly draw the oils from the top of the water. Some people have commented that they were unable to endure more than 6 drops of oil. Such individuals may benefit from adding the oils to a bath and shower gel base first. Soak in the tub for 15 minutes.

Bath Oil: Add 1–5 drops of essential oil to 1 oz. (2 Tablespoons) of fractionated coconut oil (or another carrier/vegetable oil). Add a small amount of this bath oil to bathwater, and stir before bathing.

Bath and Shower Gel: Add 3–6 drops of oil to ½ oz. of a natural bath and shower gel base; add to the water while the tub is filling. Adding the oils to a bath and shower gel base first allows one to obtain the greatest benefit from the oils, as they are more evenly dispersed throughout the water and not allowed to immediately separate.

Bath Salts: Combine 3–10 drops essential oil with ¼–½ cup of bath salts or Epsom salts. Dissolve the salt mixture in warm bathwater before bathing.

Washcloth: When showering, add 3–6 drops of oil to a bath and shower gel base before applying to a washcloth and using to wash the body.

Body Sprays: Fill a small spray bottle with distilled water, and add 10–15 drops of your favorite essential oil or blend. Shake well, and spray onto the entire body just after taking a bath or shower.

Foot Bath: Add enough hot water to a basin to cover the ankles. Add 1–3 drops of your desired essential oil. Soak feet for 5–10 minutes, inhaling the aroma of the oils.

Hand Bath: Pour enough hot water in a basin to cover hands up to the wrists. Add 1–3 drops of your desired essential oil. Soak hands for 5–10 minutes while bending, pulling, and massaging the fingers and hands to stimulate. Try combining essential oils with 1 Tbs. honey in a hand bath or regular bath to help moisturize the skin.

Shower: With the water turned on, drop peppermint, rosemary, or Respiratory Blend on the shower floor as you enter to help invigorate and open the nasal passages. Use soothing oils at night to help promote a feeling of calmness and relaxation. Alternately, fill a tub/shower combo with about an inch or two of water; then place oils in the water before turning on the shower. This will allow the oils to more easily be drawn into the feet during the shower and also allow the aroma to be inhaled.

Personal Care and Wellbeing

Exercise Tips:

Muscle Soothing: Massage essential oils such as Soothing Blend, marjoram, white fir, or eucalyptus into muscles and joints before and/or after exercise to help naturally soothe and relax tired and sore muscles and joints.

Yoga: Diffuse or inhale oils like sandalwood and frankincense to help enhance focus and meditation.

Home Atmosphere Tips:

The aroma of essential oils can be a major contributor to helping create the right atmosphere at home. Studies have shown that certain aromas can help a space feel warm and inviting, while other aromas, like orange, can help relax and reduce anxiety. Below are a couple of ideas to get you started, but try experimenting with other oils to see what kind of mood they contribute to.

Calming/Relaxing: Diffuse oils such as lavender, Calming Blend, ylang ylang, Roman chamomile, orange, sandalwood, or rose to help calm and relax (useful for de-stressing after a long day or for helping children feel calm).

Uplifting/Inviting: Diffuse lemon, grapefruit, or other citrus scents to promote a comfortable, refreshing atmosphere (useful for parties or other social gatherings).

Office/School Tips:

Memory/Concentration: The part of the brain responsible for interpreting aromas is closely tied to the part of the brain responsible for long-term memory and emotions. Studies have demonstrated the ability of essential oil aromas such as rosemary and peppermint (as well as aromas in general) to help enhance memory and alertness in human trials. Try inhaling rosemary, peppermint, or frankincense when studying or learning; then inhale the same aroma when you need to recall the information. Try diffusing oils such as lavender, lemon, or rosemary to help aid concentration.

Tired Eye Spray: Add six drops lavender, Roman chamomile, or melaleuca to 1 oz. water in a small misting spray bottle, and mist onto face Note: Be certain to keep your eyes closed. Never spray essential oils directly into eyes.

Refreshing: Inhale lemon, peppermint, Joyful Blend, eucalyptus, or white fir oil as needed during the day to help invigorate and refresh.

Oral Care Tips:

Toothpaste: Mix an essential oil or blend like peppermint, melaleuca, or Protective Blend with 1/2 tsp. baking soda, and use to brush teeth and gums.

Kitchen and Bathroom Cleaning and Disinfecting

Many essential oils have demonstrated the ability to inhibit or kill various types of bacteria, mold, spores, and even viruses. These disinfectant properties of essential oils make them a natural substitute for the harsh chemicals used in many commercial cleaners. Essential oils can also work as natural deodorizers, without the artificial fragrances used in some products.

Essential Oils Recommended for Cleaning:

Disinfecting Oils: Protective Blend, lemon, Cleansing Blend, melaleuca, lime, cinnamon, thyme, peppermint.

Deodorizing Oils: Cleansing Blend, peppermint, clary sage, melaleuca, lavender, geranium, eucalyptus.

Kitchen Cleaning Tips:

Disinfecting Spray: Make a disinfecting spray by mixing 5–6 drops of a disinfecting essential oil or blend with 1 oz. water in a small misting spray bottle. Shake, and spray on counters, cutting boards, microwave, refrigerator, garbage cans, or other desired surfaces. (Note: Since some essential oils can clog spray bottles, it may help to dissolve the essential oil in 1 tsp. of grain alcohol before adding water to the spray bottle.).

Counter Cleaning: Add 1–2 drops of lemon, Protective Blend, or another disinfecting oil to a damp rag, and use to wipe down counters, tables, or stoves.

Trash Can Deodorizer: Add 3–5 drops of a deodorizing essential oil or blend to 1 Tbs. baking powder. Sprinkle into trash can.

Dishes: Add a few drops of lemon to dishwater for sparkling dishes and a great smelling kitchen. You can add the essential oil to a dishwasher as well.

Bathroom Cleaning Tips:

Mildew Spray: Mix 5 drops lemon and 5 drops white fir with 2 oz. water in a small spray bottle. Spray on areas with mildew.

Deodorizing Spray: Place 5–8 drops of a deodorizing essential oil (try 5 drops grapefruit and 1 drop peppermint) in a 1 oz. spray bottle, and fill the remainder of the bottle with water. Shake well, and spray into the air.

Mirror Cleaner: Place 1–2 drops of a disinfecting oil (try lemon) with 1 tsp. vinegar in a 1 oz. spray bottle. Fill the remainder of the bottle with water. Shake well, and spray on mirrors. Use a dry rag or newspapers to wipe off.

Mold: Diffuse Protective Blend into the air to help eliminate mold.

Other Daily Household Tips

Laundry Tips:

Gum/Grease: Use lemon or Invigorating Blend to help take gum or grease out of clothes (test in a small, inconspicuous area first to ensure that the oil won't affect delicate dyes or fabrics).

Washing: A few drops of Cleansing Blend in the wash water will help kill bacteria and germs in clothes.

Drying: Put Cleansing Blend, Joyful Blend, lemongrass, or another favorite oil or blend on a wet rag, and then place rag in the dryer with clothing. Or mist oils from a spray bottle directly into the dryer to keep clothes smelling great—without artificial perfumes or fragrances.

Furniture Tips:

Polish: For a simple furniture polish, put a few drops of lemon, Cleansing Blend, or white fir oil on a dust cloth and use to wipe down wood.

Clothes/Closets:

Clothing Deodorizer: Place a tissue or cotton ball with several drops of Cleansing Blend, lavender, lemongrass, melaleuca, peppermint, Invigorating Blend, or another favorite oil in a perforated wood, glass, or stone container. Place container in a closet, shoe cupboard, or drawer to help naturally keep clothes smelling great.

Painting Tips:

Paint Fumes: To effectively remove paint fumes and after smell, add one 15 ml bottle of oil to any 5 gallon bucket of paint. The Cleansing Blend and citrus single oils have been favorites, while Invigorating Blend and Joyful Blend would work just as well. Either a paint sprayer or brush and roller may be used to apply the paint after mixing the oils into the paint by stirring vigorously. Oils may eventually rise to the top if using a water-based paint. Occasional stirring may be necessary to keep the oils mixed.

Carpet Care Tips:

Carpet Cleaner/Deodorizer: Mix 1 cup baking soda and 20–50 drops melaleuca, lemon, Cleansing Blend, or another favorite oil in a glass jar. Close jar, shake together, and let stand overnight. Sprinkle lightly over carpets, let sit for 15 minutes, and then vacuum.

Grease/Gum Remover: Try lemon or lime oil on stubborn, greasy stains or to help dissolve gum stuck to carpet (be certain to test oil in a small, inconspicuous area of the carpet first to ensure it won't affect any delicate dyes in the carpet).

Bug/Pest Repellent Tips:

Bug Repelling Oils: Repellent Blend, lavender, lemongrass, patchouli, basil, Cleansing Blend.

Mice Repelling Oil: Cleansing Blend.

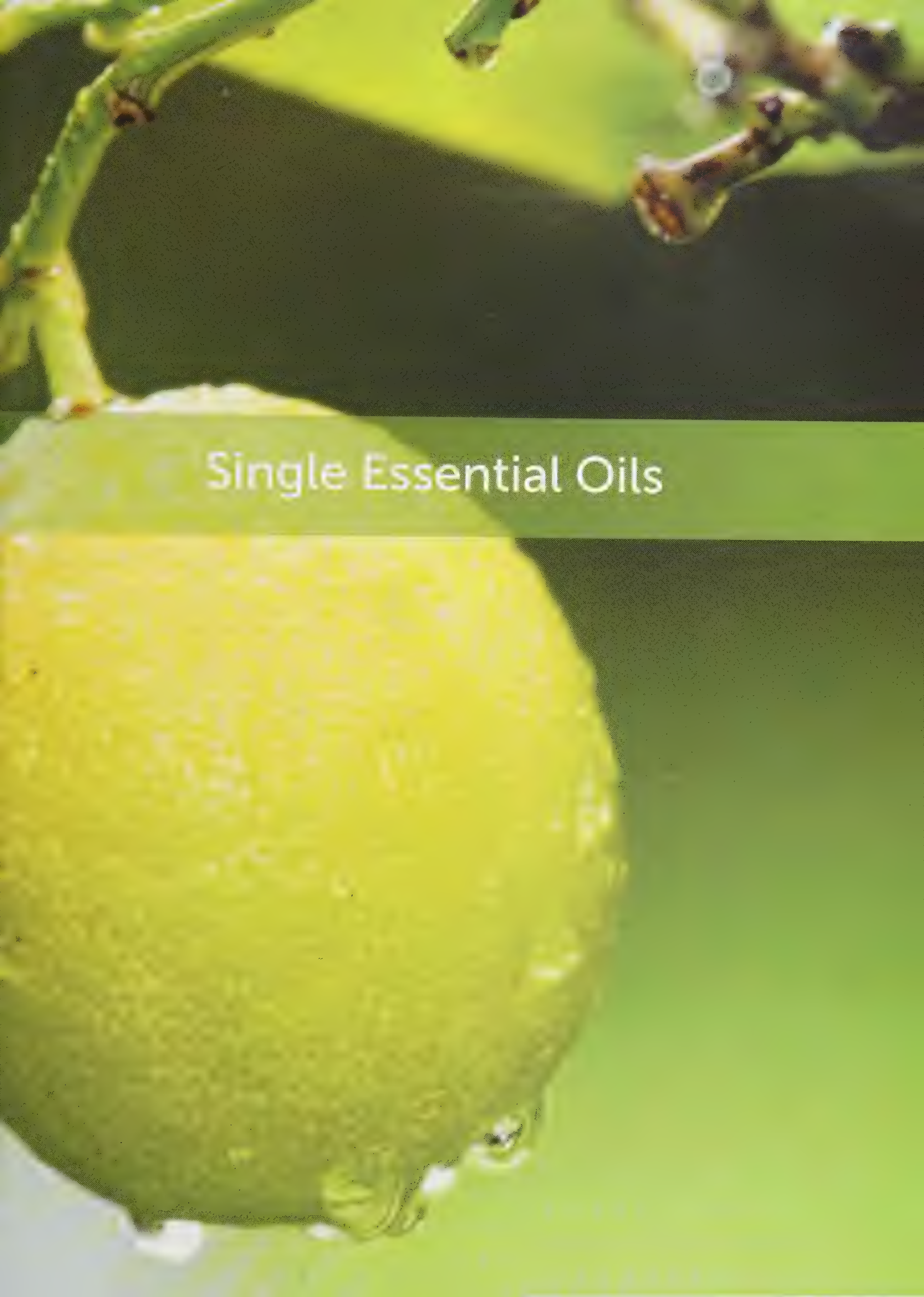
Personal Bug Repellent: Apply repelling oils directly on the skin (dilute with fractionated coconut oil if you are covering a large area).

Bug Spray: Add 10–15 drops of repelling oil to 1 oz. water in a small misting spray bottle. Shake well, and mist over exposed skin and clothing.

Diffusion: Diffuse repelling oils in a room.

Pest Repellent: Place repelling oils on a string, ribbon, or cotton ball, and hang near air vents or windows, or place in cracks and other areas where bugs or pests come through.

Single Essential Oils



Single Essential Oils

Note: This section provides concise information about many of the pure essential oils that are available for use by the general public. The listings of possible uses are meant for external application unless otherwise directed. The included safety data is also based on the external use of the oils and may differ from other published information that is based on oral application. Any internal use indicated for these oils is based on the use of pure, therapeutic–grade essential oils only.

Since pure essential oils are powerful healing agents, please remember to check the safety data before using an oil. Because there are several different oils that can help the same health condition, it should not be difficult to find one that will work for any particular situation.

Symbols and Colors Used in This Section

✋	Topical
♨	Aromatic
💧	Internal
🧴	Cleaning/Disinfecting
☀	Avoid sunlight for up to 12 hours after use
☀ ☀	Avoid sunlight for up to 72 hours after use
🔵	Neat (can be used without dilution)
🟣	Dilute for children and those with sensitive skin
🔴	Dilute
📖	See Additional Research

Arborvitae *Thuja plicata*

◐⊘

Quick Facts

Botanical Family: Cupressaceae (conifer: cypress)

Extraction Method: Steam distillation from heartwood

Common Primary Uses*: ◐⊘Antibacterial◌, ◐⊘Antifungal◌, ⊘Calming, ◐⊘Cancer◌, ⊘Repellent

Common Application Methods‡:

◐: Dilute, and apply to reflex points or to area of concern.

⊘: Diffuse into the air.

Chemical Constituents: Tropolones: α-thujaplicin, β-thujaplicin (hinokitiol), & γ-thujaplicin; methyl thujate, thujic acid, β-thujaplicinol.

Properties: Antibacterial, antifungal, antiseptic, anticancer◌, antitumor, astringent, expectorant, insect repellent, and stimulant (nerves, immune system, uterus, and heart muscles).

Historical Uses: The arborvitae, or western red cedar, has been referred to as the "Tree of Life." It has been used by ancient civilizations to enhance their potential for spiritual communication during rituals and other ceremonies. It has also been used for coughs, fevers, intestinal parasites, cystitis, and venereal diseases.

Other Possible Uses: This oil may help with hair loss, skin (nourishing), rheumatism, sunscreen◌, warts, and psoriasis. It has powerful effects on the subconscious and unconscious mind.

Body System(s) Affected: Emotional Balance, Respiratory System, Skin.

Aromatic Influence: It is calming and may help enhance spiritual awareness or meditation.

Oral Use As Dietary Supplement: None.

Safety Data: Use with caution during pregnancy. For topical and aromatic use only. Use sparingly and dilute.

Blend Classification: Enhancer and Equalizer.

Blends With: Birch, cedarwood, cassia, eucalyptus.

Odor: Type: Top to Middle Notes (10–20% of the blend); Scent: Intense, medicinal, woody, earthy; Intensity: 5.

◌ **Additional Research:**

Anticancer Properties: Hinokitiol was found to induce autophagic signaling in murine breast and colorectal tumor cells in vitro (Wang et al., 2014).

Anticancer Properties: Mice implanted with human colon cancer tumor cells saw a decrease in tumor size and weight when treated with β-thujaplicin (hinokitiol) (Lee et al., 2013).

Anticancer Properties: Hinokitiol demonstrated inhibition of cell growth and DNA synthesis in human melanoma cells in vitro (Liu et al., 2009).

Antibacterial: *Thuja plicata* displayed antibacterial activity against two Gram-positive (*Staphylococcus aureus* and *S. epidermidis*) and four Gram-negative bacteria (*Escherichia coli, Enterobacter cloacae, Klebsiella pneumonia*, and *Pseudomonas aeruginosa*) in vitro (Tsiri et al., 2009).

Antibacterial: Arborvitae essential oil vapor and liquid displayed bactericidal activity against seven bacteria (including three Gram-positive organisms, *Bacillus subtilis, Streptococcus pyogenes*, and *Enterococcus fecalis*, and four Gram-negative organisms, *Acinetobacter baumannii, Hemophilus influenzae, Salmonella enteritidis*, and *Escherichia coli*) as well as the bacterial spores of *Bacillus subtilis* (Hudson et al., 2011).

Antifungal: *Thuja plicata* displayed antifungal activity against three pathogenic fungi (*Candida albicans, C. tropicalis*, and *C. glabrata*) in vitro (Tsiri et al., 2009).

Antifungal: Arborvitae essential oil vapor and liquid displayed antifungal activity against two commonly encountered fungi (the medically important yeast *Candida albicans* and the filamentous mold *Aspergillus niger*) (Hudson et al., 2011).

Sunscreen: Application of β-thujaplicin on mouse ear skin decreased sunburn cell formation by 40% as compared to untreated skin, suggesting that β-thujaplicin can inhibit ultraviolet B-induced apoptosis and skin damage (Baba et al., 1998).

‡See Application section beginning on page 42 for more details on applying essential oils. ◐=Topical, ⊘=Aromatic, ○=Internal

Basil *Ocimum basilicum CT linalol*

🖐 🌀 💧

Quick Facts

Botanical Family: Lamiaceae or Labiatae (mint)

Extraction Method: Steam distillation of leaves, stems, and flowers

Common Primary Uses*: 🖐Amenorrhea, 🖐Autism, 🖐Bee/Hornet Stings, 🖐Bites/Stings, 🌀🖐Bronchitis◌, 🖐Bursitis, 🖐Carpal Tunnel Syndrome, 🖐🌀Chronic Fatigue, 💧🖐Cramps (Abdominal), 🖐Cuts, 🖐Earache, 🖐Frozen Shoulder, 🖐Greasy/Oily Hair, 🖐Healing, 🖐Hiatal Hernia, 🖐Incisional Hernia, 🖐Induce Sweating, 🖐🌀Infertility, 🖐Lactation (Increase Milk Production), 🌀🖐Mental Fatigue, 🖐🌀Migraines, 🖐Mouth Ulcers, 🖐Muscle Spasms, 🖐Muscular Dystrophy, 🌀🖐Olfactory Loss (Sense of Smell), 🖐🌀Ovarian Cyst, 🖐Schmidt's Syndrome, 🖐Snake Bites, 🖐Spider Bites, 🖐Transition (Labor), 🖐🌀Viral Hepatitis, 🖐Wounds

Common Application Methods‡:

🖐: Can be applied neat (with no dilution) when used topically. Dilute with carrier oil for sensitive skin and for children over six. Apply to temples, tip of nose, reflex points, and/or directly on area of concern.

🌀: Diffuse or inhale the aroma directly.

💧: Take in capsules, or use as a flavoring in cooking.

Chemical Constituents: Alcohols (up to 65%): linalol (>55%), fenchol (>10%), cis-3-hexenol; Phenolic Ethers: methyl chavicol (or estragole—up to 47%), methyl eugenol; Oxides (up to 6%): 1,8 cineol; Esters (<7%); Monoterpenes (<2%) α & β-pinenes.

Properties: Antibacterial◌, anti-infectious, anti-inflammatory, antioxidant◌, antispasmodic (powerful), antiviral, decongestant (veins, arteries of the lungs, prostate), diuretic, disinfectant (urinary/pulmonary), stimulant (nerves, adrenal cortex), and uplifting. Basil is also anticatarrhal, antidepressant, energizing, and restorative.

Historical Uses: Basil was used anciently for respiratory problems, digestive and kidney ailments, epilepsy, poisonous insect or snake bites, fevers, epidemics, and malaria.

French Medicinal Uses: Migraines (especially from liver and gallbladder problems), mental fatigue, menstrual periods (scanty).

Other Possible Uses: This oil may be used for alertness, anxiety, chills, chronic colds, concentration, nervous depression, digestion, fainting, headaches, hiccups, insect bites (soothing), insect repellent◌, insomnia (from nervous tension), intestinal problems, poor memory◌, chronic mucus, prostate problems, rhinitis (inflammation of nasal mucus membranes), vomiting, wasp stings, and whooping cough.

See Personal Usage Guide section for m details on these primary uses. ●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Body System(s) Affected: Cardiovascular System, Muscles and Bones.

Aromatic Influence: Helps one maintain an open mind and increases clarity of thought.

Oral Use As Dietary Supplement: Basil oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Avoid during pregnancy. Not for use by people with epilepsy. It may also irritate sensitive skin (test a small area first).

Blend Classification: Enhancer and Equalizer.

Blends With: Bergamot, cypress, white fir, geranium, helichrysum, lavender, lemongrass, marjoram, peppermint, and wintergreen.

Odor: Type: Top to Middle Notes (20-80% of the blend); Scent: Herbaceous, spicy, anise-like, camphorous, lively; Intensity: 4.

Additional Research:

Bronchitis: In patients with chronic bronchitis, rosemary, basil, fir, and eucalyptus oils were found to demonstrate an antioxidant effect (Siurin, 1997).

Antibacterial Properties: Basil oil was found to strongly inhibit several multi-drug resistant bacteria (Opalchenova et al., 2003).

Antioxidant Properties: Basil and its component, linalol, were found to reduce spontaneous mutagenesis in bacteria cells (Berić et al., 2008).

Insect Repellent: Two basil oils (*Ocimum basilicum* and *O. gratissimum*) were found to be insecticidal against the cowpea weevil (an agricultural pest) beetle and eggs in both a diffused and aromatized powder form (Kéita et al., 2001).

Memory: A study evaluating memory retention and retrieval of mice revealed that the hydroalcoholic extract of Ocimum basilicum significantly increased memory retention and retrieval. The memory enhancing effects were attributed to the antioxidant activity of flavonoids, tannins and terpenoids in the basil extract (Sarahroodi et al., 2012).

Breast Cancer: Basil extract was found to inhibit the growth of MCF-7 breast cancer cells, possess antioxidant activity, and protect against DNA damage (Al-Ali et al., 2013).

Cardiovascular System—Heart: Short-term oral administration of the hydroalcoholic extract of basil leaves to rats was found to protect the muscular tissue of the heart against a chemically induced heart attack (Fathiazad et al., 2012).

Diabetes: Results from a clinical trial showed that basil leaf extract decreased fasting and postprandial blood glucose in diabetes mellitus patients, suggesting that basil could be used as a dietary therapy in mild to moderate cases of type 2 diabetes mellitus (Agrawal et al., 1996).

Stroke: Oral pretreatment of basil extract was found to protect against brain damage induced by bilateral carotid artery occlusion in mice by reducing tissue death size and the oxidative degradation of lipids and restoring antioxidant content and motor functions. The researchers state that these results suggest that basil could be useful clinically in the prevention of stroke (Bora et al., 2011).

Bergamot *Citrus bergamia*

Quick Facts

Botanical Family: Rutaceae (citrus)

Extraction Method: Pressed from rind or peel; rectified and void of terpenes

Common Primary Uses*: Agitation (Calms), Brain Injury, Colic, Depression, Emotional Stress, Environmental Stress, Infection, Mental Stress, Performance Stress, Physical Energy, Physical Stress, PMS, Rheumatoid Arthritis, Sedative, Stress

Common Application Methods‡:

: Can be applied neat (with no dilution) when used topically. Apply to forehead, temples, reflex points, and/or directly on area of concern. May also be applied as a deodorant. Avoid direct sunlight or UV light for 72 hours after use.

: Diffuse or inhale the aroma directly.

: Use as a flavoring in food and beverages.

Chemical Constituents: Monoterpenes: d-Limonene (>30%), γ-terpinene, α & β-pinenes; Esters: linalyl acetate (usually around 20%); Alcohols: linalol, geraniol, nerol, α-terpineol; Sesquiterpenes: β-caryophyllene, β-bisabolene; Furanocoumarins; Aldehydes.

Properties: Analgesic, antibacterial (strep and staph infection), antifungal, anti-infectious, anti-inflammatory, antiparasitic, antiseptic, antispasmodic, digestive, neuroprotective, sedative, and uplifting.

Historical Uses: Bergamot was used by the Italians to cool and relieve fevers, protect against malaria, and expel intestinal worms.

French Medicinal Uses: Agitation, appetite (loss of), colic, depression, indigestion, infection, inflammation, insect repellent, insomnia, intestinal parasites, rheumatism, stress, and vaginal candida.

Other Possible Uses: This oil may help acne, anxiety, appetite regulation, boils, bronchitis, carbuncles, cold sores, oily complexion, coughs, cystitis, digestion, eczema, emotions, endocrine system, fever, gallstones, gonorrhea, infectious disease, insect bites, soothe lungs, psoriasis, respiratory infection, scabies, sore throat, nervous tension, thrush, acute tonsillitis, ulcers, urinary tract infection, spot varicose veins, and wounds.

Body System(s) Affected: Digestive System, Emotional Balance, Skin.

Aromatic Influence: It may help to relieve anxiety, depression, stress, and tension. It is uplifting and refreshing.

Oral Use As Dietary Supplement: Bergamot oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Repeated use may result in extreme contact sensitization. Avoid direct sunlight or ultraviolet light for up to 72 hours after use.

Blend Classification: Equalizer, Modifier, and Enhancer.

Blends With: Cypress, eucalyptus, geranium, lavender, lemon, and ylang ylang.

See Personal Usage Guide section for more details on the

●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Odor: Type: Top Note (5-20% of the blend); Scent: Sweet, lively, citrusy, fruity; Intensity: 2.

Additional Research:

Calming: A study using 114 subjects found that listening to soft music and/or inhaling Citrus bergamia essential oil were effective methods of relaxation, as indicated by a shift of the autonomic balance toward parasympathetic (Peng et al., 2009).

Neuroprotective Properties: Bergamot essential oil demonstrated neuroprotective effects against brain injury in rats with induced cerebral ischemia (Amantea et al., 2009).

Brain—Injury: Bergamot essential oil was found to reduce excitotoxic neuronal damage caused by exposure of human neuroblastoma cells to NMDA in vitro, displaying the neuroprotection capabilities of bergamot oil (Corasaniti et al., 2007).

Antifungal: Bergamot essential oil was found to be active in vitro against several common species of ringworm (Sanguinetti et al., 2007).

Respiratory System—Cystic Fibrosis: Bergamot extract was found to have potent antiretroviral activity towards HTLV-1 (a human retrovirus that causes T-cell leukemia and lymphoma) and HIV-1 expression in infected cells (Balestrieri et al., 2011).

Anxiety: Inhalation of bergamot essential oil produced similar anxiolytic results as acute injection of an antianxiety drug, diazepam, administered to mice subjected to two behavioral measurements of anxiety (the elevated plus maze test and the hole-board test) (Saiyudthong et al., 2011).

Anxiety: Bergamot essential oil also reduced the corticosterone response to stress exposure of the mice (Saiyudthong et al., 2011).

Inflammation: Bergamot extract was found to display inhibitory activity on IL-8 gene expression (IL-8 is involved in the inflammatory processes associated with cystic fibrosis), indicating that bergamot may possess possible anti-inflammatory properties to reduce lung inflammation in cystic fibrosis patients (Borgatti et al., 2011).

Birch *Betula lenta*

Quick Facts

Botanical Family: Betulaceae

Extraction Method: Steam distillation from wood

Common Primary Uses*: ●Cartilage Injury, ●Muscle Aches, ●Muscle Development, ●Muscle Tone, ●Whiplash

Common Application Methods‡:

●: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to 1 drop carrier oil) for children and for those with sensitive skin when using topically. Apply to reflex points and/or directly on area of concern. Apply topically on location, and use only small amounts (dilute with fractionated coconut oil for application on larger areas).

◎: Diffuse, or inhale the aroma directly.

Chemical Constituents: Esters (99%): methyl salicylate; betulene, betulinol.

Properties: Analgesic, anti-inflammatory, antirheumatic, antiseptic, antispasmodic, disinfectant, diuretic, stimulant (bone, liver), and warming.

Historical Uses: Birch oil has a strong, penetrating aroma that most people recognize as wintergreen. Although birch (*Betula lenta*) is completely unrelated to wintergreen (*Gaultheria procumbens*), the two oils are almost identical in chemical constituents. The American Indians and early European settlers enjoyed a tea that was flavored with birch bark or wintergreen. According to Julia Lawless, "this has been translated into a preference for 'root beer' flavourings [*sic*]." A synthetic methyl salicylate is now widely used as a flavoring agent, especially in root beer, chewing gum, toothpaste, etc.

French Medicinal Uses: Rheumatism, muscular pain, cramps, arthritis, tendonitis, hypertension, inflammation.

Other Possible Uses: This oil may be beneficial for acne, bladder infection, cystitis, dropsy, eczema, edema, reducing fever, gallstones, gout, infection, reducing discomfort in joints, kidney stones, draining and cleansing the lymphatic system, obesity, osteoporosis, skin diseases, ulcers, and urinary tract disorders. It is known for its ability to alleviate bone pain. It has a cortisone-like action due to the high content of methyl salicylate.

Body System(s) Affected: Muscles and Bones.

Aromatic Influence: It influences, elevates, opens, and increases awareness in the sensory system (senses or sensations).

Oral Use as a Dietary Supplement: None.

Safety Data: Avoid during pregnancy. Not for use by people with epilepsy. Some people are very allergic to methyl salicylate. Test a small area of skin first.

Blend Classification: Personifier and Enhancer.

Blends With: Basil, bergamot, cypress, geranium, lavender, lemongrass, marjoram, and peppermint.

Additional Research:

Antiseptic Properties: Subjects using a mouthwash containing thymol, menthol, methyl salicylate, and eucalyptol for 6 months were found to not have any oral bacteria that developed a resistance to the oils (Charles et al., 2000).

*See Personal Usage Guide section for more details on these primary uses

Black Pepper *Piper nigrum*

◐⊘○

Quick Facts

Botanical Family: Piperaceae

Extraction Method: Steam distilled from berries

Common Primary Uses*: ⊘Addictions (Tobacco)▯

Common Application Methods‡:

◐: Dilute with a carrier oil for children and for those with sensitive skin. Apply to reflex points and/or directly on area of concern. Mix very sparingly with juniper and lavender in a bath to help with chills or to warm one up in the winter.

⊘: Diffuse or inhale the aroma directly.

○: Use as a flavoring in cooking.

Chemical Constituents: Monoterpenes (up to 70%): l-limonene (<15%), δ-3-carene (<15%), β-pinene (<14%), sabinene (<10%), α-phellandrene (<9%), α-pinene (<9%), α-thujene (<4%), γ- & α-terpinene (<7%), p-cymene (<3%), myrcene (<3%), terpinolene (<2%); Sesquiterpenes (up to 60%): β-caryophyllene (up to 35%), β-selinene (<8%), β-bisabolene (<5%), α-, α-, & δ-elemenes, β-farnesene, humulene, α-copaene, α-guaiene, α- & β-cubebenes; Oxides: caryophyllene oxide (<8%); Ketones (<2%): acetophenone, hydrocarvone, piperitone; Aldehydes: piperonal; Carboxylic Acids: piperonylic acid; Furanocoumarin: α-bergamotene.

Properties: Analgesic, anticatarrhal, anti-inflammatory, antiseptic, antispasmodic, antitoxic, aphrodisiac, expectorant, laxative, rubefacient, and stimulant (nervous, circulatory, digestive)▯.

Historical Uses: Pepper has been used for thousands of years for malaria, cholera, and several digestive problems.

Other Possible Uses: This oil may increase cellular oxygenation, support digestive glands, stimulate the endocrine system, increase energy, and help rheumatoid arthritis. It may also help with loss of appetite, catarrh, chills, cholera, colds, colic, constipation, coughs, diarrhea, dysentery, dyspepsia, dysuria, flatulence (combine with fennel), flu, heartburn, influenza, nausea, neuralgia, poor circulation, poor muscle tone, quinsy, sprains, toothache, vertigo, viruses, and vomiting.

Body System(s) Affected: Digestive and Nervous Systems.

Aromatic Influence: Pepper is comforting and stimulating.

Oral Use As Dietary Supplement: Black pepper oil is generally regarded as safe (GRAS) for human consumption by the FDA. Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Can cause extreme skin irritation.

Odor: Type: Middle Note (50-80% of the blend); Scent: Spicy, peppery, musky, warm, with herbaceous undertones; Intensity: 3.

▯: **Additional Research:**

Addiction: Inhaled vapor of black pepper oil was found to reduce cravings for cigarettes and symptoms of anxiety in smokers deprived from smoking, compared to a control (Rose et al., 1994).

Stimulant Properties: Inhalation of black pepper oil was found to increase cerebral blood flow and to improve the swallowing reflex in elderly patients who had suffered a stroke (Ebihara et al., 2006).

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‡See Application section beginning on page 42 for more details on applying essential oils. ◐=Topical, ⊘=Aromatic, ○=Internal

Cardamom *Elettaria cardamomum*

Quick Facts

Botanical Family: Zingiberaceae (ginger)

Extraction Method: Steam distilled from seeds

Common Primary Uses*: Coughs, Digestive Support, Headaches, Inflammation, Muscle Aches, Nausea, Respiratory Ailments

Common Application Methods‡:

: Apply to reflex points and/or directly on area of concern. Dilute with base oil, and massage over the stomach, solar plexus, and thighs. This oil is excellent as a bath oil.

: Diffuse, or inhale the aroma directly.

: Place 1 drop under the tongue, or take oil in capsules. Use as a flavoring in cooking or in beverages.

Chemical Constituents: Esters (>40%): α-terpenyl acetate (30–45%), linalyl acetate (3%); Oxides: 1,8 cineol (up to 35%); Alcohols (7%): linalol, terpinen-4-ol, α-terpineol; Monoterpenes (6%): sabinene, myrcene, l-limonene; Aldehyde: geranial.

Properties: Antibacterial, anti-infectious, anti-inflammatory, antiseptic, antispasmodic, aphrodisiac, decongestant, diuretic, expectorant, stomachic, and tonic.

Historical Uses: Anciently, cardamom was used for epilepsy, spasms, paralysis, rheumatism, cardiac disorders, all intestinal illnesses, pulmonary disease, fever, and digestive and urinary complaints. It is said to be able to neutralize the lingering odor of garlic.

Other Possible Uses: Cardamom may help with appetite (loss of), bronchitis, colic, debility, dyspepsia, flatulence, halitosis, mental fatigue, pyrosis (or heartburn), sciatica, ulcers, and vomiting. It may also help with menstrual periods, menopause, and nervous indigestion.

Body System(s) Affected: Digestive and Respiratory Systems.

Aromatic Influence: Cardamom is uplifting, refreshing, and invigorating. It may be beneficial for clearing confusion.

Oral Use As Dietary Supplement: Generally regarded as safe (GRAS) for human consumption by the FDA. Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Blend Classification: Personifier and Modifier.

Blends With: Bergamot, cedarwood, cinnamon, clove, orange, rose, and ylang ylang.

Odor: Type: Middle Note (50–80% of the blend); Scent: Sweet, spicy, balsamic, with floral undertones; Intensity: 4.

: Additional Research:

Respiratory System—Lungs: Administration of cardamom to mice was found to have a protective effect against pan masala– (an herbal and tobacco blend sold in India) induced damage in the lungs of mice (Kumari et al., 2013)

Antibacterial: Cardamom essential oil was found to have powerful antibacterial activity against *Bacillus subtilis* spores when compared to 12 other essential oils and the isolated constituents of cardamom essential oil (Lawrence et al., 2009).

Inflammation: Cardamom essential oil reduced rat paw edema by 76% of the control value, illustrating significant anti-inflammatory activity (al-Zuhair et al., 1996).

Ulcers: Cardamom essential oil was found to inhibit gastric lesions induced by asprin and ethanol ligature in rats, illustrating cardamom's gastroprotective action (Jamal et al., 2006).

**See Personal Usage Guide section for more details on these primary uses.* ●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Cassia *Cinnamomum cassia*

Quick Facts

Botanical Family: Lauraceae (laurel)

Extraction Method: Steam distillation from bark

Common Primary Uses*: ✋Antiseptic, ✋Cooking

Common Application Methods‡:

✋: Dilute heavily with a carrier oil or blend with milder essential oils before applying on the skin. Apply to forehead, muscles, reflex points, and/or directly on area of concern.

🌀: Diffuse with caution: it will irritate the nasal membranes if it is inhaled directly from the diffuser.

💧: Use as a flavoring in cooking (similar to cinnamon but has a stronger, more intense flavor).

Chemical Constituents: Aldehydes: trans-cinnamaldehyde (up to 85%), benzaldehyde; Phenols (>7%): eugenol, chavicol, phenol, 2-vinylphenol; Esters: cinnamyl acetate, benzyl acetate.

Properties: Antibacterial, antifungal, and antiviral.

Historical Uses: Has been used extensively as a domestic spice. Medicinally, it has been used for colds, colic, flatulent dyspepsia, diarrhea, nausea, rheumatism, and kidney and reproductive complaints.

Other Possible Uses: This oil can be extremely sensitizing to the dermal tissues. Can provide some powerful support to blends when used in very small quantities.

Oral Use As Dietary Supplement: Cassia oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 2 tsp. honey or in 8 oz. of beverage (i.e. soy/rice milk). May need to increase dilution even more due to this oil's potential for irritating mucus membranes. Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Repeated use can result in extreme contact sensitization. Avoid during pregnancy. Can cause extreme skin irritation. Diffuse with caution; it will irritate the nasal membranes if it is inhaled directly from the diffuser.

Blend Classification: Personifier and Enhancer.

Odor: Type: Middle Note (50-80% of the blend); Scent: Spicy, warm, sweet; Intensity: 5.

Additional Research:

Antibacterial: Cinnamaldehyde, the main constituent of cassia oil, showed strong growth inhibiting activity toward five human intestinal bacteria in vitro (Lee et al., 1998).

Anxiety: A single treatment of cassia extract decreased anxiety in mice by causing a change of serotonin receptors in the dorsal raphe nucleus (Jung et al., 2012).

Antifungal: Cassia essential oil was found to have a strong inhibitory effect against Aspergillus mold in vitro and in grapes (Kocevski et al., 2013).

Diabetes: In vitro data suggest that the constituents of cassia may be appropriate for the treatment of diabetic complications (like cataract and retinopathy) because of the constituents' ability to inhibit aldose reductase and thus prevent the conversion of glucose to corbitol (Lee, 2002).

Repellent: Cassia oil and its components were found to repel adult female mosquitoes for about 50 minutes post-application when applied to human subjects (Chang et al., 2006).

Male Impotence: Methanol extract of *Cinnamonum cassia* was found to increase the sexual function of young male rats (Goswami et al., 2014).

Male Impotence: Methanol extract of cassia was found to effectively manage sexual dysfunction in aged rats (Goswami et al., 2013).

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‡See Application section beginning on page 42 for more details on applying essential oils. ✋=Topical, 🌀=Aromatic, 💧=Internal

Cedarwood *Juniperus virginiana*

Quick Facts

Botanical Family: Cupressaceae (conifer: cypress)

Extraction Method: Steam distillation from wood

Common Primary Uses*: ●●Calming, ●●Tension, ●●Tuberculosis, ●Urinary Infection, ●Yoga

Common Application Methods‡:

●: Dilute with a carrier oil for children and for those with sensitive skin. Apply to reflex points and/or directly on area of concern.

●: Diffuse, or inhale the aroma directly.

Chemical Constituents: Sesquiterpenes: α- & β-cedrenes (up to 36%), thujopsene (up to 42%), cuparene, trans-caryophyllene; Sesquiterpene Alcohols: cedrol (up to 15%), pseudocedrol, primcedrol, widdrol, γ-eudesmol.

Properties: Antifungal, anti-infectious, antiseptic (urinary and pulmonary), astringent, diuretic, insect repellent, and sedative.

Historical Uses: This variety of cedarwood (also known as red or Virginian cedarwood) has been used for its strong antiseptic, diuretic, calming, and insect-repelling properties.

Other Possible Uses: This oil may help acne, anxiety, arthritis, congestion, coughs, cystitis, dandruff, inflammation, psoriasis, purification, sinusitis, skin diseases, stroke, and water retention. It may also help to reduce oily secretions.

Body System(s) Affected: Nervous and Respiratory Systems.

Oral Use As Dietary Supplement: None.

Safety Data: Use with caution during pregnancy.

Blend Classification: Enhancer and Equalizer.

Blends With: Bergamot, clary sage, cypress, eucalyptus, floral oils, juniper, resinous oils, rosemary.

Odor: Type: Base Note (5–20% of the blend); Scent: Warm, soft, woody; Intensity: 3.

Additional Research:

Repellent: Cedarwood was found to possess highly insecticidal activity against adult mosquitos and other household insects (Singh et al., 1984).

Inflammation: Juniperus virginiana oil was found to have anti-inflammatory activity in mice (Tumen et al., 2013).

Stroke: A chemical constituent, α-eudesmol, found in cedarwood oil demonstrated the ability to protect against brain injury after cerebral ischemia (stroke) in rats. Specifically, α-eudesmol was found to attenuate cerebral edema formation, reduce cerebral infarct size, and inhibit calcium-dependent glutamate release from synaptosomes (Asakura et al., 2000).

*See Personal Usage Guide [illegible]

● =Neat, ● =Dilute for Children/Sensitive Skin, ● =Dilute

Chamomile, Roman *(see Roman Chamomile)*

Cilantro *Coriandrum sativum L.*

✋🌀💧

Quick Facts

Botanical Family: Umbelliferae (parsley)

Extraction Method: Steam distillation from leaves (same plant as coriander oil, which is distilled from the seeds)

Common Primary Uses*: 🌀Anxiety, 💧Cooking

Common Application Methods‡:

✋: Can be applied neat (with no dilution) when used topically. Apply to reflex points and directly on area of concern.

🌀: Diffuse or inhale the aroma directly.

💧: Use as a flavoring in cooking.

Chemical Constituents: Aldehydes (40-50%): tetradecanal, 2-dodecenal, 13-tetradecenal, dodecanal, decanal; Alcohols (up to 40%): cyclododecanol, 1-decanol, 1-dodecanol, 1-undecanol; Phenols: eugenol; Ketones: β-ionone.

Properties: Antibacterial, antifungal📖.

Historical Uses: Cilantro leaves have been used since the times of ancient Greece as an herb for flavoring. Its aroma has also been used for anxiety and insomnia.

Other Possible Uses: Mainly used as a flavoring in cooking. May also help with liver conditions📖, and with protecting the skin📖.

Oral Use As Dietary Supplement: Cilantro oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: May cause irritation on sensitive or damaged skin.

Odor: Scent: Herbaceous, citrusy, fresh.

📖 Additional Research:

Antifungal: Cilantro essential oil was found to have fungicidal effect against Candida albicans and other yeasts. The oil appeared to act by binding to membrane ergosterol, rendering the cell membrane more permeable and ultimately causing cell death (Freires Ide et al., 2014).

Liver—Cirrohsis: In rat livers, the antioxidant activity of cilantro leaves improved the adverse effect of the repeated administration of a potent liver toxin (Moustafa et al., 2012).

Liver: Ethanolic extract of the cilantro leaf was found to protect against carbon tetrachloride induced liver injury in rats, validating its use as a liver protective agent (Pandey et al., 2011).

Skin: Cilantro extract was found to protect human keratinocytes (epidermis cells) against H2O2-induced oxidative stress, suggesting that cilantro may be useful at protecting skin cells from oxidative damage (Park et al., 2012).

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‡See Application section beginning on page 42 for more details on applying essential oils. ✋=Topical, 🌀=Aromatic, 💧=Internal

Cinnamon *Cinnamomum zeylanicum*

Quick Facts

Botanical Family: Lauraceae (laurel)

Extraction Method: Steam distillation from bark

Common Primary Uses*: Airborne Bacteria, Bacterial Infections, Bites/Stings, Breathing, Diabetes, Diverticulitis, Fungal Infections, General Tonic, Immune System (Stimulates), Infection, Libido (Low), Mold, Pancreas Support, Physical Fatigue, Pneumonia, Typhoid, Vaginal Infection, Vaginitis, Viral Infections, Warming (Body)

Common Application Methods‡:

⊖: Dilute 1:3 (1 drop essential oil to at least 3 drops carrier oil) before using topically. Apply directly on area of concern or on reflex points.

⊘: Diffuse with caution; it may irritate the nasal membranes if it is inhaled directly from a diffuser.

○: Use as a flavoring in cooking.

Chemical Constituents: Aldehydes: trans-cinnamaldehyde (<50%), hydroxycinnamaldehyde, benzaldehyde, cuminal; Phenols (up to 30%): eugenol (<30%), phenol, 2-vinylphenol; Alcohols: linalol, cinnamic alcohol, benzyl alcohol, α-terpineol, borneol; Sesquiterpenes: β-caryophyllene; Carboxylic Acids: cinnamic acid.

Properties: Antibacterial, antidepressant, antifungal, anti-infectious (intestinal, urinary), anti-inflammatory, antimicrobial, antioxidant, antiparasitic, antiseptic, antispasmodic (light), antiviral, astringent, immune stimulant, purifier, sexual stimulant, and warming. It also enhances the action and activity of other oils.

Historical Uses: This most ancient of spices was included in just about every prescription issued in ancient China. It was regarded as a tranquilizer, tonic, and stomachic and as being good for depression and a weak heart.

French Medicinal Uses: Sexual stimulant, topical infection, typhoid, vaginitis.

Other Possible Uses: This oil may be beneficial for circulation, colds, coughs, digestion, exhaustion, flu, infections, rheumatism, and warts. This oil fights viral and infectious diseases, and testing has yet to find a virus, bacteria, or fungus that can survive in its presence.

Body System(s) Affected: Immune System.

Oral Use As Dietary Supplement: Cinnamon oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 2 tsp. honey or in 8 oz. of beverage (i.e. soy/rice milk). May need to increase dilution even more due to this oil's potential for irritating mucus membranes. Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Repeated use can result in extreme contact sensitization. Avoid during pregnancy.

Additional Research:

Diabetes: Cinnamon bark extract supplementation for three months was found to significantly improve blood glucose control in Chinese patients with type 2 diabetes taking gliclazide (a prescribed antidiabetic medication) (Lu, T. et al., 2012).

Diabetes: Cinnamaldehyde (the major constituent of cinnamon oil) produced protective action against alloxan-induced diabetic nephropathy in rats (Mishra et al., 2010).

Diabetes—Pancreas Support: Cinnamon polyphenols were found to restore pancreatic function and exert hypoglycemic and hypolipidemic effects in a diabetic mouse model (Li, R. et al., 2013).

Diabetes: Cinnamaldehyde (found in cinnamon oil) was found to significantly reduce blood glucose levels in diabetic wistar rats (Subash et al., 2007).

See Personal Usage Guide section for more details on these primary uses.

● =Neat, ● =Dilute for Children/Sensitive Skin, ● =Dilute

Diabetes: Oral administration of cinnamon oil was found to significantly reduce blood glucose levels in diabetic KK-Ay mice (Ping et al., 2010).

Diabetes: Cinnamaldehyde (found in cinnamon oil) was found to significantly reduce blood glucose levels in diabetic wistar rats (Subash et al., 2007).

Diabetes: Oral administration of cinnamon oil was found to significantly reduce blood glucose levels in diabetic KK-Ay mice (Ping et al., 2010).

Antibacterial Properties: Cinnamon, thyme, and clove essential oils demonstrated an antibacterial effect on several respiratory tract pathogens (Fabio et al., 2007).

Antibacterial Properties: Cinnamon oil exhibited strong antimicrobial activity against two detrimental oral bacteria. (Filoche et al., 2005).

Antibacterial Properties: Cinnamon bark, lemongrass, and thyme oils were found to have the highest level of activity against common respiratory pathogens among 14 essential oils tested (Inouye et al., 2001).

Antibacterial Properties: Bay, cinnamon, and clove oils reduced production of alpha-toxin and enterotoxin A by *Staphylococcus aureus* bacteria (Smith-Palmer et al., 2004).

Antifungal Properties: In a test of nine oils, clove, followed by cinnamon, oregano, and mace oils, was found to be inhibitory to two toxin-producing fungi (Juglal et al., 2002).

Antifungal Properties: Cinnamon, thyme, oregano, and cumin oils inhibited the production of aflatoxin by aspergillus fungus (Tantaoui-Elaraki et al., 1994).

Antifungal Properties: Vapor of cinnamon bark oil and cinnamic aldehyde was found to be effective against fungi involved in respiratory tract mycoses (fungal infections) (Singh et al., 1995).

Arthritis: The polyphenol fraction from cinnamon bark was found to improve inflammation and pain in animal models of inflammation and rheumatoid arthritis (Rathi et al., 2013).

Alzheimer's Disease: An aqueous cinnamon extract was found to inhibit beta-amyloid oligomer and fibril formation and alleviate Alzheimer's disease symptoms in the Drosophila and mouse models of Alzheimer's disease (Frydman-Marom et al., 2011).

Wound: A topically applied cinnamon oil based microemulsion showed increased wound healing ability in rats by preventing sepsis of the excised wound (Ghosh et al., 2013).

High Blood Pressure: Cinnamon bark methanol extract showed an acute antihypertensive effect on induced hypertensive rats (Nyadjeu et al., 2013).

Male Infertility: Cinnamon bark essential oil was found to have a protective effect against damages in male rat reproductive organs and cells induced by carbon tetrachloride (a common toxic substance) (Yüce et al., 2014).

Parkinson's Disease: The process of α-syn protein aggregation is a major component of Parkinson's disease. Preventing α-syn aggregation may help in the treatment of Parkinson's disease. Researchers have discovered that an aqueous cinnamon extract precipitation has a curative effect on α-syn aggregation in a Drosophila model of Parkinson's disease. Furthermore, in vitro tests have revealed that the cinnamon extract has an inhibitory effect on the process of α-syn fibrillation (Shaltiel-Karyo et al., 2012).

Clary Sage *Salvia sclarea*

Quick Facts

Botanical Family: Labiatae (mint)

Extraction Method: Steam distillation from flowering plant

Common Primary Uses*: ✋🌀Aneurysm, ✋Breast Enlargement, ✋Cholesterol, ✋Convulsions, ✋Cramps (Abdominal), ✋Dysmenorrhea, 🌀✋Emotional Stress, ✋Endometriosis, ✋Epilepsy, ✋Estrogen Balance, 🌀✋Frigidity, ✋Hair (Fragile), ✋🌀Hormonal Balance, ✋Hot Flashes, ✋💧Impotence, ✋🌀Infection, ✋🌀Infertility, 🌀✋Insomnia (Older Children), ✋Lactation (Start Milk Production), 🌀Mood Swings, ✋Muscle Fatigue, ✋Parkinson's Disease, ✋🌀PMS, 🌀✋Postpartum Depression, ✋Premenopause, ✋Seizure

Common Application Methods‡:

✋: Can be applied neat (with no dilution) when used topically. Apply to reflex points and/or directly on area of concern.

🌀: Diffuse, or inhale the aroma directly.

💧: Take in capsules, or use as a flavoring in cooking.

Chemical Constituents: Esters (up to 75%): linalyl acetate (20-75%); Alcohols (20%): linalol (10-20%), geraniol, α-terpineol; Sesquiterpenes (<14%): germacrene-D (up to 12%), -caryophyllene; Diterpene alcohols: sclareol (1-7%); Monoterpenes: myrcene, α- and β-pinenes, l-limonene, ocimene, terpinolene; Oxides: 1,8 cineol, linalol oxide, sclareol oxide; Ketones: α- and β-thujone; Sesquiterpene alcohols; Aldehydes; Coumarins. (More than 250 constituents.)

Properties: Anticonvulsant, antifungal, antiseptic, antispasmodic, astringent, nerve tonic, sedative, soothing, tonic, and warming.

Historical Uses: Nicknamed "clear eyes," it was famous during the Middle Ages for its ability to clear eye problems. During that same time, it was widely used for female complaints, kidney/digestive/skin disorders, inflammation, sore throats, and wounds.

French Medicinal Uses: Bronchitis, cholesterol, frigidity, genitalia, hemorrhoids, hormonal imbalance, impotence, infections, intestinal cramps, menstrual cramps, PMS, premenopause, weak digestion.

See Personal Usage Guide section for more details on these primary uses.

🔵=Neat, 🟣=Dilute for Children/Sensitive Skin, 🔴=Dilute

Other Possible Uses: This oil may be used for amenorrhea, cell regulation, circulatory problems, depression, insect bites, kidney disorders, dry skin, throat infection, ulcers, and whooping cough.

Body System(s) Affected: Hormonal System.

Oral Use As Dietary Supplement: Clary sage oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Use with caution during pregnancy. Not for babies. Avoid during and after consumption of alcohol.

Blend Classification: Personifier.

Blends With: Bergamot, citrus oils, cypress, geranium, and sandalwood.

Odor: Type: Middle to Base Notes (5-60% of the blend); Scent: Herbaceous, spicy, hay-like, sharp, fixative; Intensity: 3.

Additional Research:

Soothing Properties: Nurses working in an ICU setting demonstrated decreased perception of stress when receiving a topical application of *Lavandula angustifolia* and *Salvia sclarea* essential oils (Pemberton et al., 2008).

Anxiety: Dietary administration of clary sage oil (from conception) was found to have an anti-anxiety and submissive effect on mice, when compared to administration of sunflower oil (from conception and weaning) and clary sage (from weaning) (Gross et al., 2013).

Breast Cancer: Sclareol, a chemical constituent found in clary sage essential oil, was found to reduce regulatory T cells frequency and also tumor size in a mouse model of breast cancer, suggesting that sclareol can enhance the effect of cancer therapy as an immunostiumlant (Noori et al., 2013).

Female Specific Conditions—Dysmenorrhea: In an experiment with 67 female college students, an aromatherapy massage with lavender, clary sage, and rose essential oils proved to be more effective at treating dysmenorrhea than a placebo treatment of almond oil or the control (Han et al., 2006).

Female Specific Conditions—Dysmenorrhea: Compared to a synthetic fragrance, dysmenorrhea pain decreased and shortened in duration when subjects massaged a blend of lavender, marjoram, and clary sage essential oils (in a ratio of 2:1:1) daily on the abdomen between menstruations (Ou et al., 2012).

Depression: Clary sage essential oil displayed antidepressant-like effects via the dopaminergic pathway in rats submitted to the forced swim test (a common stress test) (Seol et al., 2010).

Clove *Eugenia caryophyllata*

🔴🟣🔵

Quick Facts

Botanical Family: Myrtaceae (shrubs and trees)

Extraction Method: Steam distillation from bud and stem

Common Primary Uses*: ⊜Addictions (Tobacco), 💧Antioxidant, 💧⊜Blood Clots⌣, 💧⊜Candida, ⊜Cataracts, ⊜Corns, ⊘Disinfectant, 💧Fever, ⊜⊘Fungal Infections, ⊜Herpes Simplex, ⊜Hodgkin's Disease, ⊘Hormonal Balance, ⊜⊘Hypothyroidism, ⊜⊘Liver Cleansing, ⊜Lupus, ⊜Macular Degeneration, ⊘⊜Memory, ⊘Metabolism Balance, ⊘⊜Mold, ⊜Muscle Aches, ⊜Muscle Pain, ⊜Osteoporosis, ⊜⊘Plague, ⊜Rheumatoid Arthritis, ⊘⊜Termites, ⊜⊘Thyroid Dysfunction, ⊜Toothache (Pain), ⊜⊘Tumor (Lipoma), ⊜⊘Viral Infections, ⊜Warts, ⊜Wounds

Common Application Methods‡:

⊜: Dilute 1:1 (1 drop essential oil to 1 drop carrier oil) before topical use. Apply to reflex points and/or directly on area of concern. Rub directly on the gums surrounding an infected tooth. Place on tongue with finger to remove desire to smoke, or place on back of tongue to fight against tickling cough.

⊘: Diffuse with caution; it may irritate the nasal membranes if it is inhaled directly from a diffuser.

💧: Place 1 drop under the tongue, or take in capsules. Use as a flavoring in cooking.

Chemical Constituents: Phenols: eugenol (up to 85%), chavicol, 4-allylphenol; Esters: eugenyl acetate (up to 15%), styrallyl, benzyl, terpenyl, ethyl phenyl acetates, methyl salicylate (tr.); Sesquiterpenes (up to 14%): β-caryophyllene (<12%), humulene, α-amorphene, α-muurolene, calamenene; Oxides (<3%): caryophyllene oxide, humulene oxide; Carboxylic Acids; Ketones.

Properties: Analgesic, antibacterial⌣, antifungal⌣, anti-infectious, anti-inflammatory⌣, antiparasitic, strong antiseptic, antitumor⌣, antiviral⌣, disinfectant, antioxidant, and immune stimulant.

Historical Uses: Cloves were historically used for skin infections, digestive upsets, intestinal parasites, childbirth, and most notably for toothache. The Chinese also used cloves for diarrhea, hernia, bad breath, and bronchitis.

French Medicinal Uses: Impotence, intestinal parasites, memory deficiency, pain, plague, toothache, wounds (infected).

Other Possible Uses: Clove is valuable as a drawing salve—it helps pull infection from tissues. It may also help amebic dysentery, arthritis⌣, bacterial colitis, bones, bronchitis, cholera, cystitis, dental infection, diarrhea, infectious acne, fatigue, flatulence (gas), flu, halitosis (bad breath), tension headaches, hypertension, infection (wounds and more), insect bites and stings, insect control (insecticidal)⌣, nausea, neuritis, nettles and poison oak (takes out sting), rheumatism, sinusitis, skin cancer, chronic skin disease, smoking (removes desire), sores (speeds healing of mouth and skin sores), tuberculosis, leg ulcers, viral hepatitis, and vomiting.

Body System(s) Affected: Cardiovascular, Digestive, Immune, and Respiratory Systems.

Aromatic Influence: It may influence healing, improve memory (mental stimulant), and create a feeling of protection and courage.

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*See Personal Usage Guide section for more details on these primary uses.

Oral Use As Dietary Supplement: Clove oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Repeated use can result in extreme contact sensitization. Use with caution during pregnancy. Can irritate sensitive skin.

Blend Classification: Personifier.

Blends With: Basil, bergamot, cinnamon, clary sage, grapefruit, lavender, lemon, orange, peppermint, rose, rosemary, and ylang ylang.

Odor: Type: Middle to Base Notes (20-80% of the blend); Scent: Spicy, warming, slightly bitter, woody, reminiscent of true clove buds but richer; Intensity: 5.

Additional Research:

Blood Clots: Clove oil demonstrated an ability to prevent the aggregation of platelets that can lead to blood clots and thrombosis both in vivo and in vitro (Saeed et al., 1994).

Antibacterial Properties: Cinnamon, thyme, and clove essential oils demonstrated an antibacterial effect on several respiratory tract pathogens (Fabio et al., 2007).

Antibacterial Properties: Bay, cinnamon, and clove oils reduced production of alpha-toxin and enterotoxin A by *Staphylococcus aureus* bacteria (Smith-Palmer et al., 2004).

Antifungal Properties: Clove oil was found to have very strong radical scavenging activity (antioxidant). It was also found to display an antifungal effect against tested Candida strains (Chaieb et al., 2007).

Antifungal Properties: Eugenol from clove and thymol from thyme were found to inhibit the growth of *Aspergillus flavus* and *Aspergillus versicolor* at concentrations of .4mg/ml or less. (Hitokoto et al., 1980).

Anti-inflammatory Properties: Eugenol (found in clove EO) was found to increase the anti-inflammatory activity of cod liver oil (lowered inflammation by 30%) (Reddy et al., 1994).

Inflammation: Clove oil was found to increase humoral immunity and decrease cell-mediated immunity in rats, illustrating that clove oil can modulate the immune response and overall acts as an anti-inflammatory agent (Halder et al., 2011).

Antiviral Properties: Eugenol was found to be virucidal to *Herpes simplex* and to delay the development of herpes-induced keratitis (inflammation of the cornea) in mice (Benencia et al., 2000).

Insect Control: A blend of eugenol, alpha-terpineol, and cinnamic alcohol was found to be insecticidal against American cockroaches, carpenter ants, and German cockroaches (Enan, 2001).

Insect Control: Clove oil was found to be highly termiticidal (Zhu et al., 2001).

Leukemia: Eugenol, a major chemical constituent of clove essential oil, was found to induce apoptosis in human leukemia cells via reactive oxygen species generation (Yoo et al., 2005).

Memory: Administration of clove essential oil for three weeks before treatment with scopolamine (a known agent causing memory impairment) was shown to significantly reverse the scopolamine-induced memory deficit, when compared to pretreatment with saline only (Halder et al., 2011).

Seizure: The aqueous and ethanolic extracts of clove were found to induce an anticonvulsive effect by increasing seizure latency in drug-induced seizure model mice, when compared to control (Hosseini et al., 2012).

Arthritis: Eugenol was found to ameliorate experimental arthritis in mice by inhibiting mononuclear cell infiltration into the knee joints and lowering cytokine levels (Grespan et al., 2012).

Parkinson's Disease: Eugenol administration was found to prevent induced dopamine depression and lipid peroxidation inductivity in the mouse striatum model, suggesting that eugenol may be useful in the treatment of Parkinson's disease (Kabuto et al., 2007).

Coriander *Coriandrum sativum L.*

Quick Facts

Botanical Family: Umbelliferae (parsley)

Extraction Method: Steam distillation from seeds

Common Primary Uses*: ●Cartilage Injury, ●Degenerative Disease○, ●Muscle Aches, ●Muscle Development, ●Muscle Tone, ●Whiplash

Common Application Methods‡:

●: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

●: Diffuse or inhale the aroma directly.

●: Use as a flavoring in cooking.

Chemical Constituents: Alcohols (up to 80%): linalol (>30%), coriandrol (<30%), geraniol, terpinen-4-ol, borneol; Monoterpenes (up to 24%): α-pinene, γ-terpinene, l-limonene, p-cymene, myrcene, camphene; Esters: geranyl acetate, linalyl acetate; Ketones: camphor, carvone; Aldehydes: decanal.

Properties: Analgesic, antibacterial, antifungal, antioxidant, antirheumatic, antispasmodic○, and stimulant (cardiac, circulatory, and nervous systems). It also has anti-inflammatory and sedative properties.

Historical Uses: The Chinese have used coriander for dysentery, piles, measles, nausea, toothache, and painful hernias.

Other Possible Uses: Coriander may help with anorexia, arthritis, colds, colic, diarrhea, digestive spasms, dyspepsia, flatulence, flu, gout, infections (general), measles, migraine, nausea, nervous exhaustion, neuralgia, piles, poor circulation, rheumatism, skin (oily skin, blackheads, and other impurities), and stiffness. It may also help during convalescence and after a difficult childbirth. It may regulate and help control pain related to menstruation.

Body System(s) Affected: Digestive and Hormonal Systems.

Aromatic Influence: Coriander is a gentle stimulant for those with low physical energy. It also helps one relax during times of stress, irritability, and nervousness. It may also provide a calming influence to those suffering from shock or fear.

Oral Use As Dietary Supplement: Coriander oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Use sparingly, as coriander can be stupefying in large doses.

Blend Classification: Personifier and Modifier.

Blends With: Bergamot, cinnamon, clary sage, cypress, ginger, sandalwood, and other spice oils.

Odor: Type: Middle Note (50-80% of the blend); Scent: Woody, spicy, sweet; Intensity: 3.

○ Additional Research:

Alzheimer's Disease: Inhalation of coriander volatile oil was found to possess antianxiety, antidepressant, and antioxidant properties in Alzheimer's disease conditions in a rat model of beta-amyloid Alzheimer's disease (Cioanca et al., 2014).

Alzheimer's Disease: Repeated inhalation of coriander oil was found to prevent memory impairment and oxidative damage in a rat model of beta-amyloid Alzheimer's disease, when compared to control (Cioanca et al., 2013).

Detoxification: Coriander extract was found to have a protective role against lead toxicity in rat brain (Velaga et al., 2014).

Antispasmodic Properties: Linalol, found in several essential oils, was found to inhibit induced convulsions in rats by directly interacting with the NMDA receptor complex (Brum et al., 2001).

Arthritis: Coriander extract produced a dose dependent inhibition of joint swelling in two mice models of induced arthritis (Nair et al., 2012).

Pain: Injection of coriander extract in mice was found to have a greater analgesic effect than dexamethasone (an anti-inflammatory drug) or stress, when mice were subjected to acute and chronic pain tests (Taherian et al., 2012).

**See Personal Usage Guide section for more details on these primary uses.*

‡●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Cypress *Cupressus sempervirens*

🖐🌀

Quick Facts

Botanical Family: Cupressaceae (conifer: cypress)

Extraction Method: Steam distillation from branches

Common Primary Uses*: 🖐🌀Aneurysm, 🖐Bone Spurs, 🖐Bunions, 🖐Bursitis, 🖐Carpal Tunnel Syndrome, 🖐🌀Catarrh, 🖐🌀Circulation, 🖐Concussion, 🖐Dysmenorrhea, 🖐Edema, 🖐Endometriosis, 🌀🖐Environmental Stress, 🖐🌀Flu (Influenza), 🖐Greasy/Oily Hair, 🖐Hemorrhoids, 🖐Hernia (Hiatal), 🖐Incontinence, 🖐Lou Gehrig's Disease, 🌀🖐Lymphatic Decongestant, 🖐Menopause, 🖐Menorrhagia, 🖐Muscle Fatigue, 🖐Muscle Tone, 🖐Pain (Chronic), 🌀🖐Pleurisy, 🖐🌀Preeclampsia, 🖐Prostatitis, 🖐🌀Raynaud's Disease, 🖐Retina (Strengthen), 🖐Rheumatoid Arthritis, 🖐Skin (Revitalizing), 🌀🖐Stroke, 🖐Swollen Eyes, 🖐🌀Toxemia, 🌀🖐Tuberculosis, 🖐Varicose Veins

Common Application Methods‡:

🖐: Can be applied neat (with no dilution) when used topically. Apply to reflex points and directly on area of concern.

🌀: Diffuse or inhale the aroma directly.

Chemical Constituents: Monoterpenes: α-pinene (>55%), δ-3-carene (<22%), l-limonene, terpinolene, sabinene, β-pinene; Sesquiterpene Alcohols: cedrol (up to 15%), cadinol; Alcohols: borneol (<9%), α-terpineol, terpinene-4-ol, linalol sabinol; Esters: α-terpinyl acetate (<5%), isovalerate, terpinen-4-yl acetate; Sesquiterpenes: δ-cadinene, α-cedrene; Diterpene Alcohols; labdanic alcohols, manool, sempervirol; Diterpene Acids; Oxides.

Properties: Antibacterial, anti-infectious, antimicrobial, mucolytic, antiseptic, astringent, deodorant, diuretic, lymphatic and prostate decongestant, refreshing, relaxing, and vasoconstricting.

Historical Uses: It was used anciently for its benefits on the urinary system and in instances where there is excessive loss of fluids, such as perspiration, diarrhea, and menstrual flow. The Chinese valued cypress for its benefits to the liver and to the respiratory system.

French Medicinal Uses: Arthritis, bronchitis, circulation, cramps, hemorrhoids, insomnia, intestinal parasites, lymphatic decongestant, menopausal problems, menstrual pain, pancreas insufficiencies, pleurisy, prostate decongestation, pulmonary tuberculosis, rheumatism, spasms, throat problems, varicose veins, water retention.

Other Possible Uses: This oil may be beneficial for asthma, strengthening blood capillary walls, reducing cellulite, improving the circulatory system, colds, strengthening connective tissue, spasmodic coughs, diarrhea, energy, fever, gallbladder, bleeding gums, hemorrhaging, influenza, laryngitis, liver disorders, lung circulation, muscular cramps, nervous tension, nose bleeds, ovarian cysts, increasing perspiration, skin care, scar tissue, whooping cough, and wounds.

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‡See Application section beginning on page 42 for more details on applying essential oils. 🖐=Topical, 🌀=Aromatic, 💧=Internal

Body System(s) Affected: Cardiovascular System, Muscles and Bones.

Aromatic Influence: It influences and strengthens and helps ease the feeling of loss. It creates a feeling of security and grounding.

Oral Use As Dietary Supplement: None.

Safety Data: Use with caution during pregnancy.

Blend Classification: Equalizer.

Blends With: Bergamot, clary sage, lavender, lemon, orange, and sandalwood.

Odor: Type: Middle Note (50-80% of the blend); Scent: Fresh, herbaceous, slightly woody with evergreen undertones; Intensity: 3.

Additional Research:

Antibacterial: Cypress essential oil was found to possess antibacterial activity against Staphlococcus aureus, Klebsiella pneumoniae, and Salmonella indica when tested for antimicrobial properties against 13 microorganisms (Selim et al., 2014).

Liver—Hepatitis: Oral administration of cypress methanolic extract displayed preventive action against CCl4-induced hepatotoxicity in rats. These results suggest that the antioxidant activity of the flavonoid content of cypress could have potential use as a treatment for liver diseases (Ali et al., 2010).

Dill *Anethum graveolens*

◐☯○

Quick Facts

Botanical Family: Umbelliferae (parsley)

Extraction Method: Steam distillation from whole plant

Common Primary Uses*: ◐○Cholesterol, ○Flavoring

Common Application Methods‡:

◐: Can be applied neat (with no dilution) when used topically. Apply to reflex points on the feet and/or directly on area of concern. A drop or two on the wrists may help remove addictions to sweets.

☯: Diffuse, or inhale the aroma directly.

○: Take in a capsule. Use as a flavoring in cooking.

Chemical Constituents: Monoterpenes (up to 65%): d-limonene (up to 25%), α- & β-pinenes (<30%), α- & β-phellandrenes, p-cymene; Ketones: d-carvone (<45%); Ethers (<11%).

Properties: Antispasmodic, antibacterial, expectorant, and stimulant.

Other Possible Uses: This oil may help with bronchial catarrh, colic, constipation, dyspepsia, flatulence, headaches, indigestion, liver deficiencies, lowering glucose levels, nervousness, normalizing insulin levels, promoting milk flow in nursing mothers, supporting pancreas function, and clearing toxins.

Body System(s) Affected: Digestive & Cardiovascular Systems.

Aromatic Influence: It helps calm the autonomic nervous system and, when diffused with Roman chamomile, may help fidgety children.

Oral Use As Dietary Supplement: Generally regarded as safe (GRAS) for human consumption by the FDA. Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Use with caution if susceptible to epilepsy.

Blend Classification: Enhancer.

Blends With: Citrus oils.

Odor: Type: Middle Note (50–80% of the blend); Scent: Fresh, sweet, herbaceous, slightly earthy; Intensity: 2

Additional Research:

Atherosclerosis: Different fractions of Anethum graveolens extract improved hypercholesterolemia in rats fed a high fat diet. Hypercholesterolemia has been found to be a risk factor for the development of atherosclerosis (Bahramikia et al., 2009).

Clearing Toxins: Three compounds derived from dill and caraway oil—anethofuran, carvone, and limonene—were found to induce the enzyme glutathione S-transferase (involved in transforming or binding to toxins in tissues) in several mice tissues (Zheng et al., 1992).

Gastric Ulcers: Oral administration of dill seed extract was found to have effective antisecretory and anti-ulcer activity against HCl- and ethanol-induced stomach lesions in mice (Hosseinzadeh et al., 2002).

Inflammation: Oil-based dill extract displayed greater anti-inflammatory activity when topically applied to inflamed rat paws than the anti-inflammatory drug diclofenac (Naseri et al., 2012).

Skin: An in vitro study using human fibroblast cells from adult skin showed that dill extract was able to stimulate LOXL gene expression to induce elastogenesis in adult skin cells. These findings suggest that dill extract may be able to increase skin elasticity and firming (Cenizo et al., 2006).

Antifungal: Dill essential oil was demonstrated to induce apoptosis (cell death) in Candida albicans in a metacaspase-dependent manner (Chen et al., 2014).

Memory: A combined extract of Cissampelos pareira and Anethum graveolens was found to produce cognitive-enhancing and neuroprotective effects on spatial memory in memory deficit induced rats (Thukham-Mee et al., 2012).

Diabetes: Dill seed extract suppressed high-fat diet-induced hyperlipidemia through hepatic PPAR-α activation in diabetic obese mice (Takahashi et al., 2013).

‡See Application section beginning on page 42 for more details on applying essential oils. ◐=Topical, ☯=Aromatic, ○=Internal

Eucalyptus *Eucalyptus radiata*

Quick Facts

Botanical Family: Myrtaceae (Myrtle shrubs and trees)

Extraction Method: Steam distillation from leaves

Common Primary Uses*: ◐Arterial Vasodilator, ◎◐Asthma, ◎Brain Blood Flow, ◎◐Bronchitis, ◐◎Congestion, ◐◎Cooling (Body), ◎◐Coughs, ◐◎Diabetes, ◎Disinfectant, ◐Dysentery, ◐Ear Inflammation, ◎◐Emphysema, ◎◐Expectorant, ◐Fever, ◎◐Flu (Influenza), ◐Hypoglycemia, ◐Inflammation, ◐Iris Inflammation, ◐Jet Lag, ◐Kidney Stones, ◐Lice, ◎◐Measles, ◐Neuralgia, ◐Neuritis, ◐Overexercised Muscles, ◐Pain, ◎◐Pneumonia, ◎Respiratory Viruses, ◎◐Rhinitis, ◐Shingles, ◎◐Sinusitis, ◐Tennis Elbow, ◎◐Tuberculosis

Common Application Methods‡:

◐: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to at least 1 drop carrier oil) for children and for those with sensitive skin when using topically. Apply to reflex points and/or directly on area of concern.

◎: Diffuse, or inhale the aroma directly.

Chemical Constituents: Oxides: 1,8 cineol (62-72%), caryophyllene oxide; Monoterpenes (up to 24%): α- & β-pinenes (<12%), l-limonene (<8%), myrcene, p-cymene; Alcohols (<19%): α-terpineol (14%), geraniol, borneol, linalol; Aldehydes (8%): myrtenal, citronellal, geranial, neral.

Properties: Analgesic, antibacterial, anticatarrhal, anti-infectious, anti-inflammatory, antiviral, insecticidal, and expectorant.

Other Possible Uses: This oil, when combined with bergamot, has been used effectively on herpes simplex. It may also help with acne, endometriosis, hay fever, high blood pressure, nasal mucous membrane inflammation, and vaginitis.

Body System(s) Affected: Respiratory System, Skin.

Odor: Type: Middle Note (50-80% of the blend); Scent: Slightly camphorous, sweet, fruity; Intensity: 3.

Additional Research:

Analgesic Properties: 1,8 cineole (eucalyptol) was found to have antinociceptive (pain-reducing) properties similar to morphine (Liapi et al., 2007).

Analgesic Properties: 1,8 cineole (eucalyptol) was found to display an anti-inflammatory effect on rats in several tests and was found to exhibit antinociceptive (pain-reducing) effects in mice, possibly by depressing the central nervous system (Santos et al., 2000).

Bronchitis: Therapy with 1.8 cineole (eucalyptol) in both healthy and bronchitis-afflicted humans was shown to reduce production of LTB4 and PGE2 (both metabolites of arachidonic acid, a known chemical messenger involved in inflammation) in white blood cells (Juergens et al., 1998).

Bronchitis: In patients with chronic bronchitis, rosemary, basil, fir, and eucalyptus oils were found to demonstrate an antioxidant effect. Lavender was found to promote normalization of lipid levels (Siurin et al., 1997).

Analgesic Properties: 1,8 cineole (eucalyptol) was found to display an anti-inflammatory effect on rats in several tests and was found to exhibit antinociceptive (pain-reducing) effects in mice, possibly by depressing the central nervous system (Santos et al., 2000).

Antibacterial Properties: Subjects using a mouthwash containing thymol, menthol, methyl salicylate, and eucalyptol for 6 months were found to not have developed oral bacteria that were resistant to the oils (Charles et al., 2000).

Anti-inflammatory Properties: 1,8 cineole (eucalyptol) was found to display an anti-inflammatory effect on rats in several tests and was found to exhibit antinociceptive (pain-reducing) effects in mice, possibly by depressing the central nervous system (Santos et al., 2000).

Anti-inflammatory Properties: Eucalyptus oil was shown to ameliorate inflammatory processes by interacting with oxygen radicals and interfering with leukocyte activation (Grassmann et al., 2000).

Antiviral Properties: Tea tree and eucalyptus oil demonstrated ability to inhibit the Herpes simplex virus (Schnitzler et al., 2001).

**See Personal Usage Guide section for more details on these primary uses.*

●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Insecticidal Properties: A blend of eugenol, alpha-terpineol, and cinnamic alcohol was found to be insecticidal against American cockroaches, carpenter ants, and German cockroaches (Enean, 2001).

High Blood Pressure: Treatment of rats with 1,8-cineole (or eucalyptol, found in eucalyptus and rosemary) demonstrated an ability to lower mean aortic pressure (blood pressure), without decreasing heart rate, through vascular wall relaxation (Lahlou et al., 2002).

Lice: Researchers found that an 8% eucalyptus oil spray was the most effective treatment (when compared against other concentrations of eucalyptus and clove oil sprays) against lice and insecticide-resistant head lice (Choi et al., 2010).

Bones—Osteoporosis: Oral intake of rosemary or eucalyptus essential oil (as well as several monoterpenes found in other essential oils) was shown to inhibit bone resorption in rats (Mühlbauer et al., 2003).

Childhood Diseases—Mumps: A plaque reduction assay showed that eucalyptus essential oil possessed a mild antiviral activity against mumps virus (Cermelli et al., 2008).

Fennel (Sweet) *Foeniculum vulgare*

● ● ●

Quick Facts

Botanical Family: Umbelliferae (parsley)

Extraction Method: Steam distillation from the crushed seeds

Common Primary Uses*: ✋Benign Prostatic Hyperplasia, 💧✋🌀Blood Clots, ✋Bruises, 💧✋🌀Digestive System Support, ✋💧Gastritis, ✋Kidney Stones, ✋Lactation (Increase Milk Production), ✋🌀Pancreas Support, 💧✋Parasites, ✋Skin (Revitalizing), ✋Tissue (Toxin Cleansing), ✋Wrinkles

Common Application Methods‡:

✋: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to at least 1 drop carrier oil) for children and for those with sensitive skin when using topically. Apply directly on area of concern or to reflex points.

🌀: Diffuse, or inhale the aroma directly.

💧: Place 1–2 drops under the tongue, or take in a capsule. Use as a flavoring in cooking.

Chemical Constituents: Phenolic Ethers (up to 80%): trans-anethole (70%), methyl chavicol (or estragole) (>3%); Monoterpenes (up to 50%): trans-ocimene (<12%), l-limonene (<12%), γ-terpinene (<11%), α- & β-pinenes (<10%), p-cymene, α- & β-phellandrenes, terpiolene, myrcene, sabinene; Alcohols (up to 16%): linalol (<12%), α-fenchol (<4%); Ketones (<15%): fenchone (12%), camphor; Oxides; Phenols.

Properties: Antiparasitic, antiseptic, antispasmodic, antitoxic, diuretic, and expectorant.

Historical Uses: The ancient Egyptians and Romans awarded garlands of fennel as praise to victorious warriors because fennel was believed to bestow strength, courage, and longevity. It has been used for thousands of years for snakebites, to stave off hunger pains, to tone the female reproductive system, for earaches, eye problems, insect bites, kidney complaints, lung infections, and to expel worms.

French Medicinal Uses: Cystitis, sluggish digestion, flatulence, gout, intestinal parasites, intestinal spasms, increase lactation, menopause problems, premenopause, urinary stones, vomiting.

Other Possible Uses: Fennel oil may be used for colic, stimulating the cardiovascular system, constipation, digestion (supports the liver), balancing hormones, nausea, obesity, PMS, and stimulating the sympathetic nervous system.

Body System(s) Affected: Digestive and Hormonal Systems.

Aromatic Influence: It increases and influences longevity, courage, and purification.

Application: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to 1 drop carrier oil) for children and for those with sensitive skin when using topically. Apply to reflex points and directly on area of concern; diffuse.

Oral Use As Dietary Supplement: Fennel oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with

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**See Personal Usage Guide section for more details on these primary uses.*

● =Neat, ● =Dilute for Children/Sensitive Skin, ● =Dilute

caution and in greater dilution for children 6 years old and over.

Safety Data: Repeated use can possibly result in contact sensitization. Use with caution if susceptible to epilepsy. Use with caution during pregnancy.

Blend Classification: Equalizer and Modifier.

Blends With: Basil, geranium, lavender, lemon, rosemary, and sandalwood.

Odor: Type: Top to Middle Notes (20-80% of the blend); Scent: Sweet, somewhat spicy, licorice-like; Intensity: 4.

Additional Research:

Antispasmodic Properties: Fennel oil was found to reduce contraction frequency and intensity in rat uterus induced to contract (Ostad et al., 2001).

Menopause: Using a mouse model of postmenopausal bone loss researchers found that oral administration of fennel oil for six weeks had an intermediate effect on the prevention of femoral bone mineral density and bone mineral content when compared to controls. These findings suggest that fennel oil has potential in preventing bone loss in postmenopausal osteoporosis (Kim et al., 2012).

Colic: Fennel seed oil was found to be superior to a placebo in decreasing intensity of infantile colic in a randomized placebo-controlled trial including 121 infants. The oil was administered four times a day and consumption was limited to a maximum of 12 mg/kg/day of fennel seed oil (Alexandrovich et al., 2003).

Colic: Colic improved in breastfed infants within 1 week of administering a phytotherapeutic agent containing Matricariae recutita, Foeniculum vulgare, and Melissa officinalis when compared to a placebo containing vitamins (Savino et al., 2005).

PMS: Fennel oil was found to reduce contraction frequency and intensity in rat uterus induced to contract (Ostad et al., 2001).

Stimulating the Sympathetic Nervous System: Inhalation of essential oils such as pepper, estragon, fennel, and grapefruit was found to have a stimulating effect on sympathetic activity in healthy adults (Haze et al., 2002).

Cells: Oral pretreatment with fennel essential oil was found to inhibit in vivo genotoxicity of cyclophosphamide (an important chemotherapy medication with adverse effects) in mouse bone marrow and sperm. These findings suggest that fennel could be used as an adjuvant in chemotherapeutic applications to help diminish adverse effects (Tripathi et al., 2013).

Hair: Fennel extract gel, when compared to a placebo, was effective in decreasing hair thickness in women suffering from mild to moderate idiopathic hirsutism (Akha et al., 2014).

Fir, White *(see White Fir)*

Frankincense *Boswellia frereana, Boswellia carteri, Boswellia sacra*

Quick Facts

Botanical Family: Burseraceae (resinous trees and shrubs)

Extraction Method: Steam distillation from gum/resin

Common Primary Uses*: Alzheimer's Disease, Aneurysm, Arthritis, Asthma, Balance, Brain (Aging), Brain Injury, Breathing, Cancer, Coma, Concussion, Confusion, Coughs, Depression, Fibroids, Genital Warts, Hepatitis, Immune System Support, Improve Vision, Infected Wounds, Inflammation, Liver Cirrhosis, Lou Gehrig's Disease, Memory, Mental Fatigue, Miscarriage (After), Moles, MRSA, Multiple Sclerosis, Nasal Polyp, Parkinson's Disease, Plague, Postpartum Depression, Scarring (Prevention), Tumor (Lipoma), Ulcers, Uterus Tissue Regeneration, Virus of Nerves, Warts, Wrinkles

Common Application Methods‡:

: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

: Diffuse, or inhale the aroma directly.

: Place 1–2 drops under the tongue, or take in a capsule.

Chemical Constituents: Monoterpenes: α-phellandrenes (up to 25%), α- & β-pinenes (up to 15%), α-thujene (<15%), l-limonene (<5%), sabinene (<7%), p-cymene (<10%), α-terpinene, camphene, myrcene; Sesquiterpenes (<10%): β-elemene (<5%), α-copaene; Alcohols (<10%): cis-verbenol (<5%), 4-terpineol, α-terpineol, borneol, cis-sabinol, olibanol, trans-pinocarveol, farnesol; Ketones: verbenone.

Properties: Anticatarrhal, anticancer, antidepressant, anti-infectious, anti-inflammatory, antiseptic, antitumor, expectorant, immune stimulant, and sedative.

Historical Uses: Frankincense is a holy oil in the Middle East. As an ingredient in the holy incense, it was used anciently during sacrificial ceremonies to help improve communication with the creator.

French Medicinal Uses: Asthma, depression, ulcers.

Other Possible Uses: This oil may help with aging, allergies, bites (insect and snake), bronchitis, carbuncles, catarrh, colds, diarrhea, diphtheria, gonorrhea, headaches, healing, hemorrhaging, herpes, high blood pressure, jaundice, laryngitis, meningitis, nervous conditions, prostate problems, pneumonia, respiratory problems, sciatic pain, sores, spiritual awareness, staph, strep, stress, syphilis, T.B., tension, tonsillitis, typhoid, and wounds. It contains sesquiterpenes, enabling it to go beyond the blood-brain barrier. It may also help oxygenate the pineal and pituitary glands. It increases the activity of leukocytes, defending the body against infection. Frankincense may also help a person have a better attitude, which may help to strengthen the immune system.

Body System(s) Affected: Emotional Balance, Immune and Nervous Systems, Skin.

Aromatic Influence: This oil helps to focus energy, minimize distractions, and improve concentration. It eases hyperactivity, impatience, irritability, and restlessness and can help enhance spiritual awareness and meditation.

Oral Use As Dietary Supplement: Frankincense oil in general is approved by the FDA (21CFR172.510) for use as a Food Additive (FA) and Flavoring

*See Personal Usage Guide section for more details on these primary uses. ●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Agent (FL). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Blend Classification: Enhancer and Equalizer.

Blends With: All oils.

Odor: Type: Base Note (5-20% of the blend); Scent: Rich, deep, warm, balsamic, sweet, with incense-like overtones; Intensity: 3.

Additional Research:

Arthritis: Alpha-phellandrene (found in frankincense oil) was found to have antinociceptive (pain sensation–blocking) properties in animal models (Lima et al., 2012).

Anticancer Properties: An extract from frankincense was found to produce apoptosis in human leukemia cells (Bhushan et al., 2007).

Anticancer Properties: β-elemene—a sesquiterpene found in curcumin and *Boswellia frereana* and black pepper essential oils—is currently being studied for its promising potential to induce apoptosis and inhibit cancer cell proliferation in ovarian (Zou et al, 2013), liver (Dai et al, 2013), breast (Zhang et al., 2013, Ding et al., 2013), bladder (Li et al, 2013), lung (Li et al., 2013, Chen et al., 2012), and brain (Li et al., 2013) cancer cell lines, both on its own and in combination with cisplatin chemotherapy.

Antidepressant Properties: Incensole acetate (found in frankincense) was found to open TRPV receptors in mice brain, a possible channel for emotional regulation (Moussaieff et al., 2008).

Anti-inflammatory Properties: Alpha-pinene was found to block proinflammatory responses in THP-1 cells (Zhou et al., 2004).

Anti-inflammatory Properties: *Boswellia frereana* extracts were found to inhibit proinflammatory molecules involved in joint cartilage degradation (Blain et al., 2009).

Geranium *Pelargonium graveolens*

✋🌀💧

Quick Facts

Botanical Family: Geraniaceae

Extraction Method: Steam distillation from leaves

Common Primary Uses*: 🌀✋Agitation (Calms), 🌀Airborne Bacteria, ✋Autism, ✋Bleeding, ✋Breasts (Soothes), ✋Bruises, ✋Calcified Spine, ✋🌀Cancer, ✋Capillaries (Broken), ✋🌀Diabetes, ✋Diarrhea, ✋Dysmenorrhea, ✋Endometriosis, 🌀✋Environmental Stress, ✋Gallbladder Stones, ✋Hair (Dry), ✋Hernia (Incisional), ✋Impetigo, 🌀✋Insomnia (Older Children), ✋🌀Jaundice, ✋Jet Lag, ✋Libido (Low), ✋Menorrhagia, ✋Miscarriage (After), ✋MRSA, ✋Osteoarthritis, ✋Osteoporosis, ✋🌀Pancreas Support, ✋🌀Paralysis, ✋Pelvic Pain Syndrome, 🌀✋Physical Stress, ✋🌀PMS, ✋Post Labor, ✋Rheumatoid Arthritis, ✋Skin (Dry), ✋Skin (Sensitive), 💧✋Ulcer (Gastric), ✋Varicose Ulcer, ✋Vertigo, ✋Wrinkles

Common Application Methods‡:

✋: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

🌀: Diffuse, or inhale the aroma directly.

💧: Take in capsules.

Chemical Constituents: Alcohols (up to 70%): citronellol (>32%), geraniol (<23%), linalol (<14%), nerol, γ-eudesmol, α-terpineol, menthol; Esters (up to 30%): citronellyl formate (14%), geranyl formate & acetate (<12%), other propionates, butyrates, & tiglates; Ketones: isomenthone (<8%), menthone, piperitone; Sesquiterpenes: 4-guaiadiene-6,9, α-copaene, δ- & γ-cadinenes, δ-guaiazulene, β-farnesene; Aldehydes: geranial (<6%), neral, citronellal; Monoterpenes (<5%): α- & β-pinenes, l-limonene, myrcene, ocimene; Sesquiterpene Alcohols: farnesol (<3%).

Properties: Antibacterial, anticonvulsant, antidepressant, anti-inflammatory, antiseptic, astringent, diuretic, insect repellent, refreshing, relaxing, sedative, and tonic.

Historical Uses: Geranium oil has been used for dysentery, hemorrhoids, inflammations, heavy menstrual flow, and possibly even cancer (if the folktale is correct). It has also been said to be a remedy for bone fractures, tumors, and wounds.

French Medicinal Uses: Diabetes, diarrhea, gallbladder, gastric ulcer, jaundice, liver, sterility, urinary stones.

Other Possible Uses: This oil may be used for acne, bleeding (increases to eliminate toxins, then stops), burns, circulatory problems (improves blood flow), depression, digestion, eczema, hormonal imbalance, insomnia, kidney stones, dilating biliary ducts for liver detoxification, menstrual problems, neuralgia (severe pain along the nerve), regenerating tissue and nerves, pancreas (balances), ringworm, shingles, skin (may balance the sebum, which is the fatty secretion in the sebaceous glands of the skin that keeps the skin

See Personal Usage Guide section for more details on these primary uses. 🔵=Neat, 🟣=Dilute for Children/Sensitive Skin, 🔴=Dilute supple. It is good for expectant mothers. It works as a cleanser for oily skin and may even liven up pale skin), sores, sore throats, and wounds.

Body System(s) Affected: Emotional Balance, Skin.

Aromatic Influence: It may help to release negative memories and take a person back to peaceful, joyful moments. It may also help ease nervous tension and stress, balance the emotions, lift the spirit, and foster peace, well-being, and hope.

Oral Use As Dietary Supplement: Geranium oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Repeated use can possibly result in some contact sensitization.

Blend Classification: Enhancer and Equalizer.

Blends With: All oils.

Odor: Type: Middle Note (50-80% of the blend); Scent: Sweet, green, citrus-rosy, fresh; Intensity: 3.

Additional Research:

Antibacterial Properties: A combination of Citricidal and geranium oil demonstrated strong antibacterial effects on MRSA. Geranium and tea tree demonstrated strong antibacterial effects on *Staphylococcus aureus* (Edwards-Jones et al., 2004).

Antibacterial Properties: A formulation of lemongrass and geranium oil was found to reduce airborne bacteria by 89% in an office environment after diffusion for 15 hours (Doran et al., 2009).

Anticonvulsant Properties: Linalol, found in several essential oils, was found to inhibit induced convulsions in rats by directly interacting with the NMDA receptor complex (Brum et al., 2001).

Anti-inflammatory Properties: Topical application of geranium oil was found to reduce the inflammatory response of neutrophil (white blood cell) accumulation in mice (Maruyama et al., 2005).

Insect Repellent—Ticks: A sesquiterpene alcohol from geranium essential oil proved to be an effective repellant of the lone star tick (*Amblyomma americanum*) and at concentrations greater than 0.052 mg the oil was comparable to the repellant capability of DEET (Tabanca et al., 2013).

Male Infertility: Male mice exposed to a harmful insecticide, known to cause sperm damage, were successfully treated with geranium essential oil through its antioxidant effects. Compared to the control group, the oral administration of geranium oil prevented testicular oxidative damage, reduced lipid peroxidation, and improved total sperm motility, viability, and morphology in mice spermatozoa (Slima et al., 2013).

Ginger *Zingiber officinale*

🖐 ☀ 🌀 💧

Quick Facts

Botanical Family: Zingiberaceae (ginger)

Extraction Method: Steam distillation from rhizomes

Common Primary Uses*: 🖐🌀Angina, 🖐Club Foot, 💧🖐Diarrhea, 💧🖐Gas/Flatulence, 💧🌀Indigestion, 🌀🖐Libido (Low), 🖐💧🌀Morning Sickness, 💧🌀Nausea◌, 🖐Pelvic Pain Syndrome, 🖐Rheumatic Fever (Pain), 🖐Rheumatoid Arthritis◌, 💧🖐Scurvy, 🖐🌀Vertigo, 💧🌀Vomiting

Common Application Methods‡:

🖐: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to 1 drop carrier oil) for children and for those with sensitive skin when using topically. Apply directly on area of concern or to reflex points.

🌀: Diffuse, or inhale the aroma directly.

💧: Take in capsules. Use as a flavoring in cooking.

Chemical Constituents: Sesquiterpenes (up to 90%): zingiberene (up to 50%), α- & β-curcumene (<33%), β-farnesene (<20%), β-sesquiphellandrene (<9%), β- & γ-bisabolene (<7%), β-ylangene, β-elemene, α-selinene, germacrene-D; Monoterpenes: camphene (8%), β-phellandrene, l-limonene, p-cymene, α and β-pinenes, myrcene; Alcohols: nonanol (<8%), citronellol (<6%), linalol (<5%), borneol, butanol, heptanol; Sesquiterpene Alcohols: nerolidol (<9%), zingeberol, elemol; Ketones (<6%): heptanone, acetone, 2 hexanone; Aldehydes: butanal, citronellal, geranial; Sesquiterpene Ketones: gingerone.

Properties: Antiseptic, laxative, stimulant, tonic, and warming.

Historical Uses: Anciently esteemed as a spice and recognized for its affinity for the digestive system, it has been used in gingerbread (up to 4,000 years ago in Greece), in Egyptian cuisine (to ward off epidemics), in Roman wine (for its aphrodisiac powers), in Indian tea (to soothe upset stomachs), and in Chinese tonics (to strengthen the heart and to relieve head congestion). It was also used in Hawaii to scent clothing, to cook with, and to cure indigestion. The Hawaiians also added it to their shampoos and massage oils.

French Medicinal Uses: Angina, prevention of contagious diseases, cooking, diarrhea, flatulence, impotence, rheumatic pain, scurvy, and tonsillitis.

Other Possible Uses: Ginger may be used for alcoholism, loss of appetite, arthritis◌, broken bones, catarrh (mucus), chills, colds, colic, congestion, coughs, cramps, digestive disorders, fevers, flu, impotence, indigestion, infectious diseases, memory, motion sickness, muscular aches/pains, rheumatism, sinusitis, sore throats, and sprains. Ginger may also be used in cooking.

Body System(s) Affected: Digestive and Nervous Systems.

Aromatic Influence: The aroma may help influence physical energy, love, money, and courage.

Oral Use As Dietary Supplement: Ginger oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Repeated use can possibly result in contact sensitization. Avoid direct sunlight for 3 to 6 hours after use.

Blend Classification: Personifier and Equalizer.

See Personal Usage Guide section for more details on these primary uses. ⚪=Neat, 🟣=Dilute for Children/Sensitive Skin, 🔴=Dilute

Blends With: All spice oils, all citrus oils, eucalyptus, frankincense, geranium, and rosemary.

Odor: Type: Middle Note (50-80% of the blend); Scent: Sweet, spicy-woody, warm, tenacious, fresh, sharp; Intensity: 4.

Additional Research:

Nausea: Ginger root given one hour before major gynecological surgery resulted in lower nausea and fewer incidences of vomiting compared to a control (Nanthakomon et al., 2006).

Nausea: Ginger root given orally to pregnant women was found to decrease the severity of nausea and the frequency of vomiting compared to a control (Vutyavanich et al., 2001).

Nausea: In a trial of women receiving gynecological surgery, women receiving ginger root had less incidences of nausea compared to a placebo. Ginger root demonstrates results similar to the antiemetic drug (a drug effective against vomiting and nausea) metoclopramide (Bone et al., 1990).

Arthritis: Powdered ginger supplementation was found to lower pain and swelling in arthritic patients and to relieve pain from muscle discomfort (Srivastava et al., 1992).

Arthritis: Eugenol and ginger oil taken orally were found to reduce paw and joint swelling in rats with induced severe arthritis (Sharma et al., 1994).

Liver: Daily oral administration of ginger (*Z. officinale R.*) essential oil and isolated citral (a constituent of ginger essential oil) displayed preventative effects on the formation alcohol fatty liver disease in mice administered an alcoholic liquid diet for four weeks (Liu et al., 2013).

Pain: A double-blind, placebo-controlled study demonstrated that aroma massage with ginger and orange essential oils relieved knee joint pain in elderly subjects more than the placebo (massage with olive oil) or the control (conventional treatment without massage) (Yip et al., 2008).

Grapefruit *Citrus x paradisi*

🖐🌀💧

Quick Facts

Botanical Family: Rutaceae (hybrid between *Citrus maxima* and *Citrus sinensis*)

Extraction Method: Cold-pressed from rind

Common Primary Uses*: 🖐🌀Addictions (Drugs), 🌀Anorexia, 🌀Appetite Suppressant, 🌀Bulimia, 🖐Cellulite, 💧🖐Dry Throat, 🖐💧Edema, 🖐Gallbladder Stones, 🖐🌀Hangovers, 🖐🌀Lymphatic Decongestant, 🌀🖐Mental Stress, 🖐Miscarriage (After), 🌀💧Obesity, 🌀Overeating, 🌀🖐Performance Stress, 🖐🌀PMS, 🌀💧Slimming/Toning, 🌀🖐Stress, 🖐🌀Withdrawal

Common Application Methods‡:

🖐: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points. Because grapefruit oil has many of the same uses as other citrus oils, it can be used in their place when immediate exposure to the sun is unavoidable. This is because grapefruit oil does not cause as much photosensitivity as the other citrus oils.

🌀: Diffuse, or inhale the aroma directly.

💧: Take 1–2 drops in a beverage or in capsules. Use as a flavoring in cooking.

Chemical Constituents: Monoterpenes (up to 95%): d-Limonene (<92%), myrcene, α-pinene, sabinene, β-phellandrene; Tetraterpenes: β-carotene, lycopene; Aldehydes (>2%): nonanal, decanal, citral, citronellal; Furanocoumarins: aesculetin, auraptene, bergaptol; Sesquiterpene Ketones (<2%): nootketone (used to determine harvest time); Alcohols: octanol.

Properties: Antidepressant, antiseptic, disinfectant, diuretic, stimulant, and tonic.

French Medicinal Uses: Cellulite, digestion, dyspepsia, lymphatic decongestant, water retention.

Other Possible Uses: Grapefruit oil may help with cancer, depression, eating disorders, fatigue, jet lag, liver disorders, migraine headaches, premenstrual tension, stress, and sympathetic nervous system stimulation. It may also have a cleansing effect on the kidneys, the lymphatic system, and the vascular system.

Body System(s) Affected: Cardiovascular System.

Aromatic Influence: It is balancing and uplifting to the mind and may help to relieve anxiety.

Oral Use As Dietary Supplement: Grapefruit oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Blend Classification: Modifier and Enhancer.

Blends With: Basil, bergamot, cypress, frankincense, geranium, lavender, peppermint, rosemary, and ylang ylang.

Odor: Type: Top Note (5-20% of the blend); Scent: Clean, fresh, bitter, citrusy; Intensity: 2.

Additional Research:

Obesity: The scent of grapefruit oil and its component, limonene, was found to affect the autonomic nerves and to reduce appetite and body weight in rats exposed to the oil for 15 minutes three times per week (Shen et al., 2005).

Obesity: Grapefruit essential oil was found to directly inhibit adipogenesis of adipocytes, indicating that grapefruit has an antiobesity effect (Haze et al., 2010).

Cancer: In a study of older individuals, it was found that there was a dose-dependent relationship between citrus peel consumption (which is high in d-Limonene) and a lower degree of squamous cell carcinoma (SCC) of the skin (Hakim et al., 2000).

Cancer: In clinical trials, d-Limonene (found in most citrus oils) was found to elicit a response (kept patients stable) in some patients in advanced stages of cancer (1 breast and 3 colorectal carcinoma of 32 total patients). A secondary trial with just breast-cancer patients did not elicit any responses (Vigushin et al., 1998).

Sympathetic Nervous System Stimulation: Inhalation of essential oils such as pepper, estragon, fennel, and grapefruit was found to have a stimulating effect on sympathetic activity in healthy adults (Haze et al., 2002).

Diabetes: Helichrysum and grapefruit extracts were found to improve postprandial glycemic control in a dietary model of insulin resistance in rats (da la Garza et al., 2013).

Addiction: Injection of limonene, a common terpene found in many citrus essential oils, inhibited behavioral manifestations of drug use on rats administered methamphetamine (METH). Examination of the nucleus accumbens of the rats revealed that limonene may produce its effects by regulating dopamine levels and serotonin receptor function (Yun, 2014).

Ticks: Nootkatone, found in grapefruit essential oil, was found to be toxic to four tick species (Flor-Weiler et al., 2011).

Hawaiian Sandalwood *Santalum paniculatum*

✋🌀💧

Quick Facts

Botanical Family: Santalaceae (sandalwood)

Extraction Method: Steam distilled from heartwood

Common Primary Uses*: 🌀✋Alzheimer's Disease, 🌀✋Aphrodisiac, ✋Back Pain, ✋Cancer, ✋Cartilage Repair, 🌀Confusion, ✋Exhaustion, 🌀✋Fear, ✋Hair (Dry), 🌀✋Hiccups, 🌀✋Laryngitis, ✋🌀Lou Gehrig's Disease, 🌀Meditation, ✋Moles, ✋🌀Multiple Sclerosis, ✋Rashes, ✋Skin (Dry), ✋Ultraviolet Radiation, ✋Vitiligo, 🌀Yoga

Common Application Methods‡:

✋: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

🌀: Diffuse, or inhale the aroma directly.

💧: Take in capsules.

Chemical Constituents: Sesquiterpene Alcohols (up to 98%): α- & β-santalols (up to 70%), α-bergamotol (up to 5%), cis-nuciferol, lanceol; Sesquiterpenes: α- & β-santalenes; Sesquiterpene Aldehydes: teresantalal; Carboxylic Acids: nortricycloekasantalic acid.

Properties: Antidepressant, antiseptic, antitumor, aphrodisiac, astringent, calming, sedative, and tonic.

Historical Uses: Hawaiian sandalwood was traditionally used to help clear dandruff, repel insects, and to help heal diseases of the reproductive organs.

Other Possible Uses: Sandalwood may support the cardiovascular system and relieve symptoms associated with lumbago and the sciatic nerves. It may also be beneficial for acne, regenerating bone cartilage, catarrh, circulation (similar in action to frankincense), coughs, cystitis, depression, hiccups, lymphatic system, menstrual problems, nerves (similar in action to frankincense), nervous tension, increasing oxygen around the pineal and pituitary glands, skin infection and regeneration, and tuberculosis.

Body System(s) Affected: Emotional Balance, Muscles and Bones, Nervous System, Skin.

Aromatic Influence: Calms, harmonizes, and balances the emotions. It may help enhance meditation.

Oral Use As Dietary Supplement: While this specific species of sandalwood has not yet been approved for oral use by the FDA, regular *Santalum album* oil is approved by the FDA (21CFR172.510) for use as a Food Additive (FA) and Flavoring Agent (FL) and possesses a similar chemical profile. Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Blend Classification: Modifier and Equalizer.

Blends With: Cypress, frankincense, lemon, myrrh, and ylang ylang.

Odor: Type: Base Note (5-20% of the blend); Scent: Soft, woody, spicy, sweet, earthy, balsamic, tenacious; Intensity: 3.

Additional Research:

Antitumor Properties: Alpha-santalol, derived from sandalwood EO, was found to delay and decrease the incidence and multiplicity of skin tumor (papilloma) development in mice (Dwivedi et al., 2003).

Antitumor Properties: Various concentrations of alpha-santalol (from sandalwood) were tested against skin cancer in mice. All concentrations were found to inhibit skin cancer development (Dwivedi et al., 2005).

Antitumor Properties: Alpha-santalol was found to induce apoptosis in human skin cancer cells (Kaur et al., 2005).

Helichrysum *Helichrysum italicum*

Quick Facts

Botanical Family: Compositae

Extraction Method: Steam distilled from flowers

Common Primary Uses*: ◐Abscess (Tooth), ◐◑AIDS/HIV, ◐◑Aneurysm, ◐◑Bleeding, ◐Bone Bruise, ◐Broken Blood Vessels, ◐Bruises, ◐◑Catarrh, ◐Cholesterol, ◐Cleansing, ◐◑Colitis, ◐Cuts, ◐Dermatitis/Eczema, ◐Detoxification, ◐◑Earache, ◐Fibroids, ◐Gallbladder Infection, ◐Hematoma, ◐Hemorrhaging, ◐Herpes Simplex, ◐Incisional Hernia, ◐◑Liver Stimulant, ◐Lymphatic Drainage, ◐Nose Bleed, ◐Pancreas Stimulant, ◐◑Phlebitis, ◐Psoriasis, ◐Sciatica, ◐Shock, ◐Staph Infection, ◑◐Stroke, ◐Sunscreen, ◐Swollen Eyes, ◐Taste (Impaired), ◐Tennis Elbow, ◐Tinnitus, ◐Tissue Pain, ◐Tissue Repair, ◐Vertigo, ◐◑Viral Infections, ◐Wounds

Common Application Methods‡:

◐: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

◑: Diffuse, or inhale the aroma directly.

○: Take in capsules.

Chemical Constituents: Esters (up to 60%): neryl acetate (up to 50%), neryl propionate & butyrate (<10%); Ketones: italidione (<20%), β-diketone; Sesquiterpenes: γ-curcumene (<15%), β-caryophyllene (<5%); Monoterpenes: l-limonene (<13%), α-pinene; Alcohols: nerol (<5%), linalol (<4%), geraniol; Oxides: 1,8 cineol; Phenols: eugenol.

Properties: Antibacterial, anticatarrhal, anticoagulant, antioxidant, antispasmodic, antiviral, expectorant, and mucolytic.

Historical Uses: Helichrysum has been used for asthma, bronchitis, whooping cough, headaches, liver ailments, and skin disorders.

French Medicinal Uses: Blood cleansing, chelating agent for metallics, chemicals, and toxins, viral colitis, detoxification, gallbladder infection, hematoma, hypo-cholesterol, liver cell function stimulant, lymph drainage, pain reduction, pancreas stimulant, phlebitis, sciatica, sinus infection, skin conditions (eczema, dermatitis, psoriasis), stomach cramps, sunscreen.

Other Possible Uses: This oil may help with anger management, bleeding, circulatory functions, hearing, detoxifying and stimulating the liver cell function, pain (acute), relieve respiratory conditions, reduce scarring, scar tissue, regenerate tissue, and varicose veins.

Body System(s) Affected: Cardiovascular System, Muscles and Bones.

Aromatic Influence: It is uplifting to the subconscious and may help calm feelings of anger.

Oral Use As Dietary Supplement: Helichrysum oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Blend Classification: Personifier.

Blends With: Geranium, clary sage, rose, lavender, spice oils, and citrus oils.

🔵=Neat, 🟣=Dilute for Children/Sensitive Skin, 🔴=Dilute

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*See Personal Usage Guide section for more details on these primary uses.

Odor: Type: Middle Note (50-80% of the blend); Scent: Rich, sweet, fruity, with tea and honey undertones; Intensity: 3.

Additional Research:

Antibacterial Properties: Helichrysum oil exhibited definite antibacterial activity against six tested Gram (+/-) bacteria (Chinou et al., 1996).

Antibacterial Properties: Helichrysum was found to inhibit both the growth and the formation of some enzymes of *Staphylococcus aureus* (staph) bacteria (Nostro et al., 2001).

Antioxidant Properties: Arzanol (extracted from helichrysum) at non-cytotoxic concentrations showed a strong inhibition of TBH-induced oxidative stress in VERO cells (Rosa et al., 2007)

Antiviral Properties: Arzanol, extracted from helichrysum, inhibited HIV-1 replication in T-cells and also inhibited the release of pro-inflammatory cytokines (chemical messengers) in monocytes (Appendino et al., 2007).

Antiviral Properties: Helichrysum showed significant antiviral activity against the herpes virus at non-cytotoxic concentrations (Nostro et al., 2003).

Diabetes: Helichrysum and grapefruit extracts were found to improve post-prandial glycemic control in a dietary model of insulin resistance in rats (da la Garza et al., 2013).

Jasmine *Jasminum officinale*

Quick Facts

Botanical Family: Oleaceae (olive)

Extraction Method: Absolute extraction from flowers

Common Primary Uses*: ●Hoarse Voice, ●Pink Eye, ●Sensitive Skin

Common Application Methods‡:

●: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

●: Diffuse, or inhale the aroma directly.

●: Take in capsules.

Chemical Constituents: Esters (up to 50%): benzyl acetate (<28%), benzyl benzoate (<21%), methyl anthranilate, methyl jasmonate; Diterpene Alcohols: phytol (<12%), isophytol (<7%); Alcohols: linalool (<8%), benzyl alcohol, farnesol; Triterpenes: squalene (<7%); Pyrroles: indole, scatole; Ketone: cis-jasmone.

Properties: Anticatarrhal, antidepressant, and antispasmodic.

Historical Uses: Known in India as the "queen of the night" and "moonlight of the grove," women have treasured jasmine for centuries for its beautiful, aphrodisiac-like fragrance. According to Roberta Wilson, "In many religious traditions, the jasmine flower symbolizes hope, happiness, and love." Jasmine has been used for hepatitis, cirrhosis of the liver, dysentery, depression, nervousness, coughs, respiratory congestion, reproductive problems, and "to stimulate uterine contractions in pregnant women as childbirth approached." It was also used in teas, perfumes, and incense.

Other Possible Uses: This oil may help with catarrh (mucus), conjunctivitis, coughs, dysentery, eczema (when caused by emotions), frigidity, hepatitis (cirrhosis of the liver), hoarseness, labor pains, laryngitis, lethargy (abnormal drowsiness), menstrual pain and problems, muscle spasms, nervous exhaustion and tension, pain relief, respiratory conditions, sex, skin care (dry, greasy, irritated, and sensitive), sprains, and uterine disorders. Jasmine is an oil that affects the emotions; it penetrates the deepest layers of the soul, opening doors to our emotions. It produces a feeling of confidence, energy, euphoria, and optimism. It helps to reduce anxiety, apathy, depression, indifference, listlessness, and relationship dilemmas. As a cologne, it increases feelings of attractiveness.

Body System(s) Affected: Emotional Balance, Hormonal System.

Aromatic Influence: It is very uplifting to the emotions and may help increase intuitive powers and wisdom. It may also help to promote powerful, inspirational relationships.

Application: Apply to reflex points on the feet and directly on area of concern; diffuse.

Oral Use As Dietary Supplement: Jasmine oil is generally regarded as safe (GRAS) for human consumption by the FDA. Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Blend Classification: Equalizer, Modifier, and Enhancer.

See Personal Usage Guide section for more details on these primary uses.

●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Blends With: Bergamot, frankincense, geranium, helichrysum, lemongrass, melissa, orange, rose, sandalwood, spearmint.

Odor: Type: Base Note (5–20% of the blend); Scent: Powerful, sweet, tenacious, floral with fruity-herbaceous undertones; Intensity: 4.

Additional Research:

Antispasmodic Properties: While inhaled jasmine has been shown to stimulate in vivo, jasmine applied to guinea pig and rat tissue was shown to be spasmolytic (anti-spasm) (Lis-Balchin et al., 2002).

Hormonal System: Jasmine flowers applied to the breast were found to be as effective as the anti-lactation drug bromocriptine at reducing breast engorgement, milk production, and analgesic (pain-relieving drug) intake in women after giving birth (Shrivastav et al., 1988).

Juniper Berry *Juniperus communis*

Quick Facts

Botanical Family: Cupressaceae (conifer: cypress)

Extraction Method: Steam distilled from berries and needles

Common Primary Uses*: ●Acne, ●Alcoholism, ●Dermatitis/Eczema, ●Kidney Stones, ●Tinnitus

Common Application Methods‡:

●: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

●: Diffuse, or inhale the aroma directly.

●: Place 1 drop under the tongue, or take in capsules. Use with caution if pregnant or nursing.

Chemical Constituents: Monoterpenes (>50%): α-pinene (up to 40%), sabinene (<18%), β-myrcene (<8%), l-limonene (<6%); Sesquiterpenes (up to 30%): β-caryophyllene, α-humulene, germacrene; Esters: bornyl acetate, terpinyl acetate; Ketones: camphor, junionone, pinocamphone, thujone.

Properties: Antiseptic, antispasmodic, astringent, cleanser, detoxifier, diuretic, stimulant, and tonic.

Historical Uses: Over the centuries, juniper has been used for physical and spiritual purification, for cleansing infections and healing wounds, for liver complaints, for embalming, for relieving arthritis and urinary tract infections, for warding off plagues, epidemics, and contagious diseases, and for headaches, kidney and bladder problems, pulmonary infections, and fevers.

French Medicinal Uses: Acne, dermatitis, eczema.

Other Possible Uses: This oil may work as a detoxifier and a cleanser, which may reduce acne, dermatitis, and eczema. It may also help coughs, depression, energy, infection, increase circulation through kidneys, kidney stones, liver problems, aching muscles, nerve function and regeneration, obesity, rheumatism (promotes excretion of uric acid and toxins), ulcers, urinary infections, water retention, and wounds.

Body System(s) Affected: Digestive System, Emotional Balance, Nervous System, Skin.

Aromatic Influence: Juniper evokes feelings of health, love, and peace and may help to elevate one's spiritual awareness.

Oral Use As Dietary Supplement: Juniper berry oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over Use with caution during pregnancy or while nursing.

Blend Classification: Equalizer.

Blends With: Bergamot, all citrus oils, cypress, geranium, lavender, melaleuca, and rosemary.

Odor: Type: Middle Note (50–80% of the blend); Scent: Sweet, balsamic, tenacious; Intensity: 3.

Additional Research:

Cholesterol: Oral administration of juniper berry essential oil to rats fed a high cholesterol diet resulted in increased antioxidant enzyme activities in the rat heart tissue (Gumral et al., 2013).

See Personal Usage Guide section for more details on these primary uses. ●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Lavender *Lavandula angustifolia*

⊖⊘💧

Quick Facts

Botanical Family: Labiatae (mint)

Extraction Method: Steam distilled from flowering top

Common Primary Uses*: ⊖Abuse (Healing From), ⊘⊖Agitation (Calms), ⊖Allergies, ⊘⊖Anxiety◌, ⊘Appetite Loss, ⊘⊖Arrhythmia, ⊘Atherosclerosis, ⊖Bites/Stings, ⊖Blisters, ⊖Boils, ⊖Breasts (Soothes), ⊖Burns, ⊘⊖Calming, ⊘⊖Cancer, ⊖Chicken Pox, ⊖Club Foot, ⊘Concentration, ⊖Convulsions, ⊘⊖Crying, ⊖Cuts, ⊖Dandruff, ⊘⊖💧Depression, ⊖Diabetic Sores, ⊖Diaper Rash, ⊖Diuretic, ⊖Dysmenorrhea, ⊖Exhaustion, ⊖Fever, ⊖Gangrene, 💧⊖Gas/Flatulence, 💧⊖Giardia, ⊖Gnats and Midges (Repellent), ⊘⊖Grief/Sorrow, ⊖Hair (Dry), ⊖Hair (Fragile), ⊖Hair (Loss), ⊖Hay Fever, ⊖Hernia (Inguinal), ⊖Herpes Simplex, ⊘⊖Hyperactivity, ⊖Impetigo, ⊖Inflammation, ⊘⊖Insomnia, ⊖Itching, ⊖Jet Lag, ⊖Lips (Dry), ⊖Mastitis, ⊖Menopause, ⊘⊖Mental Stress, ⊘Mood Swings, ⊖Mosquito Repellent, ⊖Muscular Paralysis, ⊖⊘Pain, ⊘⊖Parasympathetic Nervous System Stimulation, ⊖Parkinson's Disease, ⊖⊘Phlebitis, ⊘⊖Physical Stress, ⊖Poison Ivy/Oak, ⊖Post Labor, ⊘⊖Postpartum Depression, ⊖Rashes, ⊘⊖Relaxation, ⊖Rheumatoid Arthritis, ⊘⊖Sedative, ⊖Seizure, ⊖Skin (Dry), ⊖Skin (Sensitive), ⊖Skin Ulcers, ⊖⊘Sleep, ⊘⊖Stress◌, ⊖Stretch Marks, ⊖Sunburn, ⊘⊖Tachycardia, ⊖Teeth Grinding, ⊖Teething Pain, ⊘⊖Tension, ⊖Thrush, ⊖Ticks, ⊖Ulcers (Leg), ⊖Varicose Ulcer, ⊖Vertigo, ⊖⊘Withdrawal, 💧⊖Worms, ⊖Wounds, ⊖Wrinkles

Common Application Methods‡:

⊖: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

⊘: Diffuse, or inhale the aroma directly.

💧: Place 1–2 drops under the tongue, or take in capsules. Can also be used in beverages or as a flavoring in cooking.

Chemical Constituents: Alcohols (up to 58%): linalol (>41%), α-terpineol, borneol, lavendulol, geraniol, nerol; Esters (approx. 50%): linalyl acetate (up to 45%), lavendulyl & geranyl acetates, α-terpenyl acetate; Monoterpenes (up to 24%): β-ocimene (<16%), d-Limonene (<5%), α- & β-pinenes, camphene, δ-3-carene; Sesquiterpenes: β-caryophyllene (<7%), χ-farnesene; Phenols: terpinen-4-ol (<6%); Aldehydes: benzaldehyde, cuminal, geranial, hexanal, myrtenal, neral; Oxides: 1,8 cineol, caryophyllene oxide, linalol oxide; Coumarins (<4%); Ketones: octanone (<3%), camphor; Lactones.

Properties: Analgesic◌, anticoagulant, anti convulsant◌, antidepressant, antifungal◌, antihistamine, anti-infectious, anti-inflammatory◌, antimicrobial◌, antimutagenic◌, antiseptic, antispasmodic, antitoxic, antitumor◌, cardiotonic, regenerative, and sedative◌.

Historical Uses: During Medieval times, people were obviously divided on the properties of lavender

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‡See Application section beginning on page 42 for more details on applying essential oils.

⊖=Topical, ⊘=Aromatic, 💧=Internal

regarding love. Some would claim that it could keep the wearer chaste, while others claimed just the opposite—touting its aphrodisiac qualities. Its list of uses is long.

French Medicinal Uses: Acne, allergies, burns (cell renewal), cramps (leg), dandruff, diaper rash, flatulence, hair loss, herpes, indigestion, insomnia, lowering blood pressure, lymphatic system drainage, menopausal conditions, mouth abscess, nausea, phlebitis, premenstrual conditions, scarring (minimizes), stretch marks, tachycardia, thrush, water retention.

Other Possible Uses: Lavender is a universal oil that has traditionally been known to balance the body and to work wherever there is a need. If in doubt, use lavender. It may help anxiety, arthritis, asthma, body systems balance, bronchitis, bruises, carbuncles, cold sores, earaches, fainting, gallstones, relieve headaches, heart irregularity, reduce high blood pressure, hives (urticaria), hysteria, insect bites and bee stings, infection, influenza, injuries, repel insects, laryngitis, migraine headaches, mental clarity, mouth abscess, reduce mucus, nervous tension, pineal gland (activates), respiratory function, rheumatism, skin conditions (eczema, psoriasis, rashes), sprains, sunstroke, throat infections, tuberculosis, typhoid fever, and whooping cough.

Body System(s) Affected: Cardiovascular System, Emotional Balance, Nervous System, Skin.

Aromatic Influence: It promotes consciousness, health, love, peace, and a general sense of well-being. It also nurtures creativity.

Oral Use As Dietary Supplement: Lavender oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Blend Classification: Enhancer, Modifier, and Equalizer.

Blends With: Most oils (especially citrus oils), clary sage, and geranium.

Odor: Type: Middle Note (50-80% of the blend); Scent: Floral, sweet, herbaceous, balsamic, woody undertones; Intensity: 2.

Additional Research:

Anxiety: Patients waiting for dental treatment were found to be less anxious and have a better mood when exposed to the odor of lavender or orange oil compared to control (Lehrner et al., 2005).

Anxiety and Sleep: A study with 56 percutaneous coronary intervention patients in an intensive care unit found that an aromatherapy blend of lavender, Roman chamomile, and neroli decreased anxiety and improved sleep quality when compared to conventional nursing intervention (Cho et al., 2013).

Stress: Lavender odor was found to reduce mental stress while increasing arousal (Motomura et al., 2001).

Stress: Nurses working in an ICU setting demonstrated decreased perception of stress when receiving a topical application of *Lavandula angustifolia* and *Salvia sclarea* essential oils (Pemberton et al., 2008).

Analgesic Properties: Lavender oil was found to work as an anaesthetic (reducing pain) in rabbit reflex tests (Ghelardini et al., 1999).

Analgesic Properties: A triple blind randomized placebo-controlled trial, consisting of 60 subjects and evaluating the use of lavender oil for Cesarean post-operative pain management, found that inhalation of lavender (when compared to inhalation of a placebo) decreased postoperative pain and increased patient satisfaction. Furthermore, patients inhaling lavender oil required significantly lower dosages of Diclofenac suppository as a supplemental analgesic drug than the placebo group. The researchers state that lavender essential oil is not recommended as the sole analgesic treatment (Olapour et al., 2013).

Anticonvulsant Properties: Linalol, found in several essential oils, was shown to inhibit induced convulsions in rats by directly interacting with the NMDA receptor complex (Brum et al., 2001).

Antifungal Properties: Lavender oil demonstrated both fungistatic (stopped growth) and fungicidal (killed) activity against *Candida albicans* (D'Auria et al., 2005).

Anti-inflammatory Properties: Oil from *Lavandula angustifolia* was found to reduce writhing in induced writhing in rats and to reduce edema (swelling) in carrageenan-induced paw edema, indicating an anti-inflammatory effect (Hajhashemi et al., 2003).

Anti-inflammatory Properties: Linalol and linalyl acetate (from lavender and other essential oils) were found to exhibit anti-inflammatory activity in rats subjected to carrageenin-induced edema (inflammation) (Peana et al., 2002).

Antimicrobial Properties: Essential oil from *Lavandula angustifolia* demonstrated ability to eliminate protozoal pathogens *Giardia duodenalis, Trichomonas vaginalis,* and *Hexamita inflata* at concentrations of 1% or less (Moon et al., 2006).

Antibacterial: Scanning electron microscopy analysis and zeta potential measurement revealed that lavender essential oil's antibacterial action against multi-drug-resistant *Escherichia coli* occurs via two mechanisms: alteration of outer membrane permeability and possible inhibition of bacterial quorum sensing (Yap et al., 2014).

Antimutigenic Properties: In tests for mutagenicity, both melaleuca (tea tree) and lavender oils were found to not be mutagenic. Lavender oil was also found to demonstrate a strong antimutagenic activity, reducing mutations of cells exposed to a known mutagen (Evandri et al., 2005).

Antitumor Properties: Mice treated with perillyl alcohol (found in lavender and mint plants) had a 22% reduction in tumor incidence and a 58% reduction in tumor multiplicity during a mouse lung tumor bioassay (Lantry et al., 1997).

Antitumor Properties: Rats with liver tumors that were treated with perillyl alcohol had smaller tumor sizes than untreated rats due to apoptosis in cancer cells in treated rats (Mills et al., 1995).

Antitumor Properties: Rats fed diets containing perillyl alcohol (derived from lavender plants) were found to have less incidence of colon tumors and less multiplicity of tumors in the colon compared to a control. Colon tumors of animals fed perillyl alcohol were found to exhibit increased apoptosis of cells compared to control (Reddy et al., 1997).

Sedative Properties: Exposure to lavender odor was found to decrease anxiety in gerbils in the elevated plus maze. A further decrease in anxiety was found in females after prolonged (2 week) exposure (Bradley et al., 2007).

Sedative Properties: Exposure to lavender oil and to its constituents, linalol and linalyl acetate, was found to decrease normal movement in mice and was also found to return mice to normal movement rates after caffeine-induced hyperactivity (Buchbauer et al., 1991).

Sedative Properties: In patients admitted to an intensive care unit, those receiving lavender aromatherapy reported a greater improvement in mood and in

See Personal Usage Guide section for more details on these primary uses. ●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

perceived levels of anxiety compared to those receiving just massage or a period of rest (Dunn et al., 1995).

Sedative Properties: Swiss mice fed lavender oil diluted in olive oil were found to be more sedate in several common tests (Guillemain et al., 1989).

Sedative Properties: Patients being treated with chronic hemodialysis demonstrated less anxiety when exposed to lavender aroma (Itai et al., 2000).

Sedative Properties: Inhaling lavender oil was found to lower agitation in older adults suffering from dementia (Lin et al., 2007).

Sedative Properties: Lavender oil was found to inhibit sympathetic nerve activity in rats while exciting parasympathetic nerve activity. Linalol, a component of lavender, was shown to have similar effects (Shen et al., 2005).

Sedative Properties: Lavender oil demonstrated anticonflict effects in mice similar to the anxiolytic (antianxiety) drug diazepam (Umezu et al., 2000).

Allergies: Lavender oil was found to inhibit immediate-type allergic reactions in mice and rats by inhibiting mast cell degranulation (Kim et al., 1999).

Insomnia: Female students suffering from insomnia were found to sleep better and to have lower levels of depression during weeks they used a lavender fragrance when compared to weeks they did not use a lavender fragrance (Lee et al., 2006).

Insomnia: Twenty-four sessions of lavender essential oil aromatherapy was found to improve sleep quality in midlife women with insomnia up to one week after the end of the intervention when compared to the control group (Chien et al., 2012).

Lowering Blood Pressure: Lavender oil scent was found to lower sympathetic nerve activity and blood pressure in rats while elevating parasympathetic nerve activity. It was further found that applying an anosmia-inducing agent (something that causes a loss of smell) eliminated the effects of the lavender oil scent (Tanida et al., 2006).

Menopause: Inhalation of linalool or *Lavandula burnatii* super-derived essential oil (composed from the five main lavender oils and containing a high level of linalool) was found to aid in the recovery of ether-inhalation induced decrease in adrenaline, noradrenaline, and dopamine levels in female menopausal model rats. The researchers stated that these results suggest that lavender or linalool may contribute to relieving tension and may be applicable to the treatment of menopausal disorders (Yamada et al., 2005).

Asthma: Long-term inhalation of lavender oil was found to suppress allergic airway inflammation and mucous cell hyperplasia in a mouse model of acute asthma (Ueno-Iio et al., 2014).

Headaches: Inhalation of lavender essential oil was found to be more effective than inhalation of a placebo for reducing the severity of headaches in subjects diagnosed with migraine headaches (Sasannejad et al., 2012).

Bronchitis: In patients with chronic bronchitis, lavender was found to promote normalization of lipid levels (Siurin et al., 1997).

High Blood Pressure: Eighty-three hypertensive or prehypertensive subjects were divided into the following three groups: a study group (exposed to an essential oil blend containing lavender, ylang ylang, marjoram, and neroli), a placebo group (exposed to artificial fragrance), and a control group (no interventions). The study group was found to have an immediate and long-term decrease in home blood pressure (Kim et al., 2012).

Insect Repellent: Lavender oil was found to be comparable to DEET in its ability to repel ticks (*Hyalomma marginatum*) (Mkolo et al., 2007).

Insect Repellent: An infestation of the red bud borer pest was reduced by more than 95% in the grafted buds of apple trees by application of the essential oil of *Lavandula angustifolia* (van Tol et al., 2007).

Mental Clarity: Subjects exposed to 3 minutes of lavender aroma were more relaxed and were able to perform math computations faster and more accurately (Diego et al., 1998).

Mental Clarity: Subjects who smelled a cleansing gel with lavender aroma were more relaxed and were able to complete math computations faster (Field et al., 2005).

Dysmenorrhea: Compared to a synthetic fragrance, dysmenorrhea pain decreased and shortened in duration when subjects massaged a blend of lavender, marjoram, and clary sage essential oils (in a ratio of 2:1:1) daily on the abdomen between menstruations (Ou et al., 2012).

Lemon *Citrus limon*

⊖☀⊘◯

Quick Facts

Botanical Family: Rutaceae (citrus)

Extraction Method: Cold-pressed from rind (requires 3,000 lemons to produce a kilo of oil)

Common Primary Uses*: ⊘Air Pollution, ⊘Anxiety, ⊖⊘Atherosclerosis, ⊖Bites/Stings, ◯Blood Pressure (Regulation), ⊘⊖Brain Injury, ⊖Cold Sores, ⊘⊖Colds (Common), ⊘Concentration, ⊖Constipation, ⊘⊖◯Depression, ⊖Digestion (Sluggish), ⊖⊘Disinfectant, ◯⊖Dry Throat, ⊖Dysentery, ⊖Energizing, ⊖Exhaustion, ◯⊖Fever, ⊖⊘Flu (Influenza), ⊖Furniture Polish, ◯⊖Gout, ⊖Greasy/Oily Hair, ⊘⊖Grief/Sorrow, ⊖Gum/Grease Removal, ⊖⊘Hangovers, ⊖Heartburn, ◯⊖Intestinal Parasites, ◯Kidney Stones, ⊘⊖Lymphatic Cleansing, ⊖MRSA, ⊘Overeating, ⊖⊘Pancreatitis, ⊘Physical Energy, ⊘⊖Postpartum Depression, ⊘Purification, ⊘Relaxation, ⊖Skin (Tones), ⊘⊖Stress, ⊖⊘◯Throat Infection, ⊖Tonsillitis, ⊘Uplifting, ⊖Varicose Veins, ◯⊖Water Purification

Common Application Methods‡:

⊖: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points. Avoid direct sunlight or UV light for up to 12 hours after using on the skin.

⊘: Diffuse, or inhale the aroma directly.

◯: Place 1–2 drops under the tongue, or drink with a beverage. Take in capsules. Use as a flavoring in cooking.

Chemical Constituents: Monoterpenes (up to 90%): d-Limonene (up to 72%), α- & β-pinenes (<30%), α- & γ-terpinenes (7-14%), sabinene, p-cymene, terpinolene, α- & β-phellandrenes; Aldehydes (up to 12%): citral, citronellal, neral, geranial, heptanal, hexanal, nonanal, octanal, undecanal; Alcohols: hexanol, octanol, nonanol, decanol, linalol, α-terpineol; Esters (<5%): geranyl acetate, neryl acetate, methyl anthranilate; Sesquiterpenes (<5%): β-bisabolene, β-caryophyllene; Tetraterpenes (<4%): β-carotene, lycopene; Phenols: terpinen-4-ol; Coumarins and Furocoumarins (<3%): umberlliferone, bergaptene, α-bergamotene, limettine, psoralen, bergamottin, bergaptol, citroptene scopoletin.

Properties: Anticancer, antidepressant, antiseptic, antifungal, antioxidant, antiviral, astringent, invigorating, refreshing, and tonic.

Historical Uses: Lemon has been used to fight food poisoning, malaria and typhoid epidemics, and scurvy. (In fact, sources say that Christopher Columbus carried lemon seeds to America—probably just the leftovers from the fruit that was eaten during the trip.) Lemon has also been used to lower blood pressure and to help with liver problems, arthritis, and muscular aches and pains.

French Medicinal Uses: Air disinfectant, anemia, asthma, cold, fever (reduces), germicide, gout, heartburn, intestinal parasites, red blood cell formation, rheumatism, throat infection, ureter infections, varicose veins, water purification, white blood cell formation.

Other Possible Uses: This oil may be beneficial for aging, soothing broken capillaries, dissolving cellulite, clarity of thought, debility, digestive problems, energy, gallstones, hair (cleansing), promoting leukocyte formation, liver deficiencies in children, memory improvement, nails (strengthening and hardening), nerves, nervous conditions, respiratory problems, cleaning children's skin, sore throats, and promoting a sense of well-being. It works extremely well in removing gum, wood stain, oil, and grease spots. It may

* *See Personal Usage Guide section for more details on these primary uses.*

‡ ●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

also brighten a pale, dull complexion by removing dead skin cells.

Body System(s) Affected: Digestive, Immune, and Respiratory Systems.

Aromatic Influence: It promotes health, healing, physical energy, and purification. Its fragrance is invigorating, enhancing, and warming.

Application: Can be applied neat (with no dilution) when used topically. Apply to reflex points and directly on area of concern; diffuse.

Oral Use As Dietary Supplement: Lemon oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Avoid direct sunlight for up to 12 hours after use. Can cause extreme skin irritation.

Blend Classification: Modifier and Enhancer.

Blends With: Eucalyptus, fennel, frankincense, geranium, peppermint, sandalwood, and ylang ylang.

Odor: Type: Top Note (5-20% of the blend); Scent: Sweet, sharp, clear, citrusy; Intensity: 3.

Additional Research:

Anxiety: Rats exposed long-term to lemon essential oil were found to demonstrate different anxiety and pain threshold levels than untreated rats. It was also found that exposure to lemon oil induced chemical changes in the neuronal circuits involved in anxiety and pain (Ceccarelli et al., 2004).

Concentration: Daily inhalation of lemon essential oil aroma for five minutes was found to have a positive effect on learning in mice (Ogeturk et al., 2010).

Stress: Lemon odor was found to enhance the positive mood of volunteers exposed to a stressor (Kiecolt-Glaser et al., 2008).

Stress: Lemon oil vapor was found to have strong antistress and antidepressant effects on mice subjected to several common stress tests (Komiya et al., 2006).

Anticancer Properties: In a study of older individuals, it was found that there was a dose-dependent relationship between citrus peel consumption (which are high in d-Limonene) and a lower degree of squamous cell carcinoma (SCC) of the skin (Hakim et al., 2000).

Anticancer Properties: In clinical trials, d-Limonene (found in most citrus oils and in dill, caraway, citronella, and nutmeg) was found to elicit a response (kept patients stable) in some patients in advanced stages of cancer (1 breast and 3 colorectal carcinoma of 32 total patients). A secondary trial with just breast cancer patients did not elicit any responses (Vigushin et al., 1998).

Antidepressant Properties: Lemon oil and its component, citral, were found to decrease depressed behavior in rats involved in several stress tests in a manner similar to antidepressant drugs (Komori et al., 1995).

Antifungal Properties: Lemon oil was found to be an effective antifungal agent against two bread-mold species (Caccioni et al., 1998).

Antioxidant Properties: Lemon oil and one of its components, gamma-terpinene, were found to inhibit oxidation of low-density lipoprotein (LDL). Oxidation of LDL has been found to increase the risk of atherosclerosis and cardiac disease (Grassmann et al., 2001).

Aging: Based on lemon essential oil's acetylcholinesterase inhibitory activity, butyrylcholinesterase inhibitiory activity, and antioxidant power, this essential oil could be used in the management and/or prevention of neurodegenerative conditions like Alzheimer's disease (Oboh et al., 2014).

Aging: A study using mice demonstrated that pretreatment with lemon essential oil causes an increase in antioxidant enzymatic activities and decreased lipid degradation in the hippocampus (Campelo et al., 2011). Antioxidant and bioprotective activities, like that of lemon essential oil, can reduce damage to neurons produced by neurodegenerative disease (Campelo et al., 2011).

Digestive Problems: The use of rosemary, lemon, and peppermint oils in massage demonstrated an ability to reduce constipation and to increase bowel movements in elderly subjects, compared to massage without the oils (Kime et al., 2005).

Gastric Ulcer: Lemon essential oil and its majority compound (limonene) exhibited a gastroprotective effect against induced gastric ulcers in rats (Rozza et al., 2011).

Nerves: Pretreatment of human and rat astrocyte cells (cells found in the nerve and brain that support the blood-brain barrier and help repair the brain and spinal cord following injuries) with lemon oil was found to inhibit heat-shock induced apoptosis of these cells (Koo et al., 2002).

Nose—Rhinitis: A study including 100 patients (ages 3 to 79) suffering from vasomotor allergic rhinopathy, showed that topical application of a citrus lemon based spray resulted in a total reduction of eosinophils granulocytes and mast cells. These results suggest that the lemon-based nasal spray is a good alternative to conventional medicine for the treatment of perennial and seasonal allergic and vasomotor rhinopathy (Ferrara et al., 2012).

Morning Sickness: A randomized clinical trial carried out on 100 pregnant women suffering from mild to moderate nausea found inhalation of lemon essential oil to be more effective at preventing nausea than inhalation of a carrier oil on days two and four of a four day trial (Yavari kia et al., 2014).

Lemongrass *Cymbopogon flexuosus*

✋🌀💧

Quick Facts

Botanical Family: Gramineae (grasses)

Extraction Method: Steam distilled from leaves

Common Primary Uses*: 🌀Air Pollution, 🌀Airborne Bacteria, ✋Carpal Tunnel Syndrome, 💧Cholesterol, ✋Cramps/Charley Horses, ✋Cystitis/Bladder Infection, ✋Diuretic, ✋Edema, ✋Fleas, ✋Frozen Shoulder, 💧Gastritis, ✋🌀Grave's Disease, ✋🌀Hashimoto's Disease, ✋Hernia (Incisional), ✋Hernia (Inguinal), ✋Improve Vision, 💧✋Lactose Intolerance, ✋🌀Lymphatic Drainage, 🌀✋Mental Fatigue, ✋Muscular Dystrophy, ✋🌀Paralysis, 🌀Purification, ✋Retina (Strengthen), ✋Sprains, ✋Strain (Muscle), ✋Tissue Repair, ✋🌀Urinary Tract Infection, ✋Varicose Veins, ✋Whiplash (Ligaments), ✋Wounds

Common Application Methods‡:

✋: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to 1 drop carrier oil) for children and for those with sensitive skin when using topically. Apply directly on area of concern or to reflex points.

🌀: Diffuse, or inhale the aroma directly.

💧: Take in capsules. Use as a flavoring in cooking.

Chemical Constituents: Aldehydes (up to 80%): geranial (<42%), neral (<38%), farnesal (<3%), decanal; Alcohols (<15%): geraniol (<10%), α-terpineol (<3%), borneol (<2%), nerol, linalol, citronellol; Sesquiterpene Alcohols: farnesol (<13%); Esters (<11%): geranyl & linalyl acetates; Monoterpenes (<9%): myrcene (<5%), d-Limonene (<3%), β-ocimene; Sesquiterpenes: β-caryophyllene (<6%); Oxides: caryophyllene oxide (<4%); Ketones: methyl heptanone (<3%).

Properties: Analgesic, antibacterial, anticancer, anti-inflammatory, antiseptic, insect repellent, revitalizer, sedative, tonic, and vasodilator.

Historical Uses: Lemongrass has been used for infectious illnesses and fever, as an insecticide, and as a sedative to the central nervous system.

French Medicinal Uses: Bladder infection (cystitis), connective tissue (regenerates), digestive system, edema, fluid retention, kidney disorders, lymphatic drainage, parasympathetic nervous system (regulates), varicose veins, vascular walls (strengthens).

Other Possible Uses: This oil may help with circulation, improving digestion, improving eyesight, fevers, flatulence, headaches, clearing infections, repairing ligaments, waking up the lymphatic system, getting the oxygen flowing, respiratory problems, sore throats, tissue regeneration, and water retention.

Body System(s) Affected: Immune System, Muscles and Bones.

Aromatic Influence: It promotes awareness and purification.

Oral Use As Dietary Supplement: Lemongrass oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years

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**See Personal Usage Guide section for more details on these primary uses.*

●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Can cause extreme skin irritation.

Blend Classification: Enhancer and Equalizer.

Blends With: Basil, clary sage, eucalyptus, geranium, lavender, melaleuca, and rosemary.

Odor: Type: Top Note (5-20% of the blend); Scent: Grassy, lemony, pungent, earthy, slightly bitter; Intensity: 4.

Additional Research:

Cholesterol: Internal use of lemongrass capsules was found to reduce cholesterol in some subjects (Elson et al., 1989).

Antibacterial Properties: A formulation of lemongrass and geranium oil was found to reduce airborne bacteria by 89% in an office environment after diffusion for 15 hours (Doran et al., 2009).

Antibacterial Properties: Lemongrass and lemon verbena oil were found to be bactericidal to *Helicobacter pylori* at very low concentrations. Additionally, it was found that this bacteria did not develop a resistance to lemongrass oil after 10 passages; while this bacteria did develop resistance to clarithromycin (an antibiotic) under the same conditions (Ohno et al., 2003).

Antibacterial Properties: Two components of lemongrass demonstrated antibacterial properties, while the addition of a third component, myrcene, enhanced the antibacterial activities (Onawunmi et al., 1984).

Anticancer Properties: Geraniol, found in lemongrass oil (among others), was found to inhibit colon cancer cell growth while inhibiting DNA synthesis in these cells (Carnesecchi et al., 2001).

Anticancer Properties: Lemongrass oil and its constituent, isointermedeol, were found to induce apoptosis in human leukemia cells (Kumar et al., 2008).

Anticancer Properties: An extract from lemongrass was found to inhibit hepatocarcinogenesis (liver cancer genesis) in rats (Puatanachokchai et al., 2002).

Anticancer Properties: Lemongrass oil was found to inhibit multiple cancer cell lines, both in vitro and in vivo in mice (Sharma et al., 2009).

Respiratory Problems: Cinnamon bark, lemongrass, and thyme oils were found to have the highest level of activity against common respiratory pathogens among 14 essential oils tested (Inouye et al., 2001).

Lime *Citrus aurantifolia*

Quick Facts

Botanical Family: Rutaceae (citrus)

Extraction Method: Cold expressed from peel

Common Primary Uses*: Bacterial Infections, Fever, Gum/Grease Removal, Skin (Revitalizing)

Common Application Methods‡:

Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points. It makes an excellent addition to bath and shower gels, body lotions, and deodorants.

Diffuse, or inhale the aroma directly.

Place 1–2 drops under the tongue, or drink with a beverage. Take in capsules. Use as a flavoring in cooking.

Chemical Constituents: Monoterpenes (up to 80%): d-Limonene (<65%), α- & β-pinenes (<17%), camphene, sabinene, p-cymene, myrcene, bisabolene, dipentene, phellandrene, cadinene; Oxides (<22%): 1,8 cineol (<20%), 1,4 cineol; Aldehydes (<20%): geranial (<8%), neral (<5%), citral, citronellal, octanal, nonanal, decanal, lauric aldehyde; Alcohols (4%): α-terpineol (<2%), borneol, α-fenchol, linalol; Coumarins: limettine; Furanoids: furfural, garanoxycoumarin.

Properties: Antibacterial, antiseptic, antiviral, restorative, and tonic.

Historical Uses: For some time, lime was used as a remedy for dyspepsia with glycerin of pepsin. It was often used in place of lemon for fevers, infections, sore throats, colds, etc.

Other Possible Uses: This oil may be beneficial for anxiety, blood pressure, soothing broken capillaries, dissolving cellulite, improving clarity of thought, debility, energy, gallstones, hair (cleansing), promoting leukocyte formation, liver deficiencies in children, lymphatic system cleansing, memory improvement, nails (strengthening), nervous conditions, cleaning children's skin, sore throats, water and air purification, and promoting a sense of well-being. It works extremely well in removing gum, wood stain, oil, and grease spots. It may also help brighten a pale, dull complexion by removing the dead skin cells. Lime oil is capable of tightening skin and connective tissue.

Body System(s) Affected: Digestive, Immune, and Respiratory Systems.

Aromatic Influence: Lime oil has a fresh, lively fragrance that is stimulating and refreshing. It helps one overcome exhaustion, depression, and listlessness. Although unverifiable, some sources claim that inhaling the oil may stimulate the muscles around the eyes.

Oral Use As Dietary Supplement: Lime oil is generally regarded as safe (GRAS) for human consumption by the FDA. Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Avoid direct sunlight 12 hours after use.

Blend Classification: Enhancer and Equalizer.

Blends With: Citronella, clary sage, lavender, rosemary, other citrus oils.

Odor: Type: Top Note (5-20% of the blend); Scent: Sweet, tart, intense, lively; Intensity: 3

Additional Research:

Weight—Obesity: Injection of lime essential oil prevented weight gain by suppressing the appetite of mice even when administered ketotifen, an antihistamine with the undesirable side effects of decreased metabolism and increased appetite (Asnaashari et al., 2010).

See Personal Usage Guide section for more details on these primary uses.

🔵=Neat, 🟣=Dilute for Children/Sensitive Skin, 🔴=Dilute

Marjoram *Origanum majorana*

⊜⊘💧

Quick Facts

Botanical Family: Labiatae (mint)

Extraction Method: Steam distilled from leaves

Common Primary Uses*: ⊜Arterial Vasodilator, ⊜⊘Arthritis, ⊜Bone Spurs, ⊜Carpal Tunnel Syndrome, ⊜Cartilage Injury, ⊜Colic, ⊜Constipation, ⊜Cramps/Charley Horses, ⊘⊜Croup, ⊘⊜Expectorant, ⊜⊘High Blood Pressure, ⊜Muscle Aches, ⊜Muscle Fatigue, ⊜Muscle Spasms, ⊜Muscle Tone, ⊜Muscular Dystrophy, ⊜Neuralgia, ⊜Osteoarthritis, ⊜⊘Pancreatitis, ⊜Parkinson's Disease, ⊘⊜Physical Stress, ⊜⊘Prolapsed Mitral Valve, ⊜Rheumatoid Arthritis, ⊜Sprains, ⊜Stiffness, ⊜Tendinitis, ⊜Tension (Muscle), ⊜Whiplash (Muscles)

Common Application Methods‡:

⊜: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points. Use with caution during pregnancy.

⊘: Diffuse, or inhale the aroma directly.

💧: Place 1–2 drops under the tongue, or take in a capsule. Use as a flavoring in cooking.

Chemical Constituents: Monoterpenes (up to 60%): α- & γ-terpinenes (<30%), sabinene (<8%), myrcene (<7%), terpinolene, ocimene, δ-3-carene, p-cymene, α- and β-pinenes, δ-cadinene, α- & β-phellandrenes, l-limonene; Alcohols (<30%): α-terpineol (<15%), cis- & trans-thujanol-4 (<12%), linalol (<8%); Phenols: terpinen-4-ol (>21%), terpinen-1-ol-3; Esters: geranyl acetate (<7%), linalyl acetate, α-terpenyl acetate; Aldehydes: citral (<6%); Sesquiterpenes (<5%): β-caryophyllene, humulene; Phenolic Ethers: trans-anethole.

Properties: Antibacterial, anti-infectious, antiseptic, antisexual, antispasmodic, arterial vasodilator, digestive stimulant, diuretic, expectorant, sedative, and tonic.

Historical Uses: Marjoram was used to combat poisoning, fluid retention, muscle spasms, rheumatism, sprains, stiff joints, bruises, obstructions of the liver and spleen, and respiratory congestions. According to Roberta Wilson, "Those curious about their futures anointed themselves with marjoram at bedtime so that they might dream of their future mates."

French Medicinal Uses: Aches, arthritis, asthma, bronchitis, colic, constipation, cramps, insomnia, intestinal peristalsis, migraine headaches, muscles, neuralgia, pains, parasympathetic nervous system (tones), blood pressure (regulates), rheumatism, sprains.

Other Possible Uses: It may be relaxing and calming to the muscles that constrict and sometimes contribute to headaches. It may help anxiety, boils, bruises, burns, carbuncles, celibacy (vow not to marry), colds, cold sores, cuts, fungus and viral infections, hysteria, menstrual problems, calm the respiratory system, ringworm, shingles, shock, sores, relieve spasms, sunburns, and water retention.

Body System(s) Affected: Cardiovascular System, Muscles and Bones.

Aromatic Influence: It promotes peace and sleep.

Oral Use As Dietary Supplement: Marjoram oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years

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‡See Application section beginning on page 42 for more details on applying essential oils.

⊜=Topical, ⊘=Aromatic, 💧=Internal

old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Use with caution during pregnancy.

Blend Classification: Enhancer and Equalizer.

Blends With: Bergamot, cypress, lavender, orange, rosemary, and ylang ylang.

Odor: Type: Middle Note (50-80% of the blend); Scent: Herbaceous, green, spicy; Intensity: 3.

Additional Research:

High Blood Pressure: Eighty-three hypertensive or prehypertensive subjects were divided into the following three groups: a study group (exposed to an essential oil blend containing lavender, ylang ylang, marjoram, and neroli), a placebo group (exposed to artificial fragrance), and a control group (no interventions). The study group was found to have an immediate and long-term decrease in home blood pressure (Kim et al., 2012).

Arthritis: In patients suffering from arthritis, it was found that a blend of lavender, marjoram, eucalyptus, rosemary, and peppermint blended with carrier oils reduced perceived pain and depression compared to control (Kim et al., 2005).

Dysmenorrhea: Compared to a synthetic fragrance, dysmenorrhea pain decreased and shortened in duration when subjects massaged a blend of lavender, marjoram, and clary sage essential oils (in a ratio of 2:1:1) daily on the abdomen between menstruations (Ou et al., 2012).

Ulcers: Oral administration of marjoram extract was shown to significantly decrease the incidence of ulcers, basal gastric secretion, and acid output in rats (Al-Howiriny et al., 2009).

Melaleuca (Tea Tree) *Melaleuca alternifolia* ✋☯💧

Quick Facts

Botanical Family: Myrtaceae (Myrtle: shrubs and trees)

Extraction Method: Steam distilled from leaves

Common Primary Uses*: ✋Acne◌, ✋Allergies, ✋☯Aneurysm, ✋Athlete's Foot, ✋Bacterial Infections, ✋Boils◌, ✋☯Bronchitis, ✋Candida, ✋Canker Sores, ✋Cavities, ✋☯Chicken Pox, ☯Cleansing, ✋Cold Sores, ☯✋Colds (Common), ☯✋Coughs, ✋Cuts, ✋Dermatitis/Eczema, ☯Dry/Itchy Eyes, ✋Ear Infection, ✋Earache, ☯✋Flu (Influenza)◌, ✋Fungal Infections, ✋Gum Disease, ✋☯Hepatitis, ✋Herpes Simplex, ✋Hives, ✋☯Immune System (Stimulates), ✋☯Infected Wounds, ✋Infection, ✋☯Inflammation, ✋Jock Itch, ✋Lice, ✋MRSA, ✋☯Mumps, ✋Nail Infection, ✋☯Pink Eye, ✋Rashes, ✋Ringworm, ✋Rubella, ✋Scabies, ✋Shingles, ✋Shock, ✋☯Sore Throat, ✋Staph Infection, ✋Sunburn, ✋Thrush, ✋☯Tonsillitis, ✋Vaginal Infection, ✋Varicose Ulcer, ✋☯Viral Infections, ✋Warts, ✋Wounds

Common Application Methods‡:

✋: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

☯: Diffuse, or inhale the aroma directly.

💧: Take in capsules.

Chemical Constituents: Monoterpenes (up to 70%): α- & γ-terpinenes (<40%), p-cymene (<12%), α- and β-pinenes (<8%), terpinolene, l-limonene, sabinene, myrcene, α-thujene; Phenols: terpinen-4-ol (<40%); Sesquiterpenes (up to 20%): α- & δ-cadinenes (<8%), aromadendrene (<7%), viridiflorene (<5%), β-caryophyllene, α-phellandrene; Oxides: 1,8 cineol (<14%), 1,4 cineol (<3%), caryophyllene oxide; Alcohols: α- & β-terpineols (<8%); Sesquiterpene Alcohols (<5%): globulol, viridiflorol.

Properties: Analgesic, antibacterial◌, antifungal◌, anti-infectious, anti-inflammatory◌, antioxidant, antiparasitic, a strong antiseptic, antiviral◌, decongestant, digestive, expectorant, immune stimulant, insecticidal, neurotonic, stimulant, and tissue regenerative.

Historical Uses: The leaves of the melaleuca tree (or tea tree) have been used for centuries by the aborigines to heal cuts, wounds, and skin infections. With twelve times the antiseptic power of phenol, it has some strong immune-building properties.

French Medicinal Uses: Athlete's foot, bronchitis, colds, coughs, diarrhea, flu, periodontal (gum) disease, rash, skin healing, sore throat, sunburn, tonsillitis, vaginal thrush.

Other Possible Uses: This oil may help burns, digestion, hysteria, infectious diseases, mites◌, and ticks◌.

Body System(s) Affected: Immune and Respiratory Systems, Muscles and Bones, Skin.

Aromatic Influence: It promotes cleansing and purity.

Oral Use As Dietary Supplement: Melaleuca oil in general is approved by the FDA (21CFR172.510) for use as a Food Additive (FA) or Flavoring Agent (FL). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Repeated use can possibly result in contact sensitization.

Blend Classification: Enhancer and Equalizer.

Blends With: All citrus oils, cypress, eucalyptus, lavender, rosemary, and thyme.

Odor: Type: Middle Note (50-80% of the blend); Scent: Medicinal, fresh, woody, earthy, herbaceous; Intensity: 3.

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‡See Application section beginning on page 42 for more details on applying essential oils.   ✋=Topical, ☯=Aromatic, 💧=Internal

Additional Research:

Acne: A gel with 5% tea tree oil was found to be as effective as a 5% benzoyl peroxide (a common chemical used to treat acne) lotion at treating acne, with fewer side effects (Bassett et al., 1990).

Acne: A topical gel containing 5% tea tree oil was found to be more effective than a placebo at preventing acne vulgaris lesions and at decreasing severity in patients suffering from acne vulgaris (Enshaieh et al., 2007).

Acne: Tea tree oil and several of its main components were found to be active against *Propionibacterium acnes*, a bacteria involved in the formation of acne. This oil was also found to be active against two types of Staphylococcus bacteria (Raman et al., 1995).

Boils: In a human trial, most patients receiving treatment with *Melaleuca alternifolia* oil placed topically on boils experienced healing or reduction of symptoms; while of those receiving no treatment (control), half required surgical intervention, and all still demonstrated signs of the infection (Feinblatt et al., 1960).

Influenza: In vitro research has found that Melaleuca alternifolia concentrate can disturb the normal viral membrane fusion of the influenza virus and inhibit entry of influenza virus into the host cell (Li et al., 2013).

Antibacterial Properties: MRSA (methicillin-resistant staph) and MSSA (methicillin-sensitive staph) in biofilms (plaque/microcolonies) were eradicated by a 5% solution of tea tree oil as well as 5 of 9 CoNS (coagulase-negative staph) (Brady et al., 2006).

Antibacterial Properties: 66 isolates of *Staphylococcus aureus* (Staph), including 64 methicillin-resistant (MRSA) strains and 33 mupirocin-resistant strains, were inhibited by tea tree essential oil (Carson et al., 1995).

Antibacterial Properties: Tea tree oil was found to disrupt the cellular membrane and to inhibit respiration in Candida albicans, Gram-negative E. coli, and Gram-positive *Staphylococcus aureus* (Staph) (Cox et al., 2000).

Antibacterial Properties: Geranium and tea tree demonstrated strong antibacterial effects on *Staphylococcus aureus* (Edwards-Jones et al., 2004).

Antibacterial Properties: Tea tree oil and its component terpinen-4-ol demonstrated an effective antibacterial activity against *Staphylococcus aureus* (Staph) bacteria, superior to the activity of several antibiotic drugs—even against antibiotic-resistant strains (Ferrini et al., 2006).

Antibacterial Properties: Tea tree oil was found to kill transient skin flora at lower concentrations than it killed resident skin flora (Hammer et al., 1996).

Antibacterial Properties: Gram-positive strains of *Staphylococcus aureus* and *Enterococcus faecalis* were shown to have very low frequencies of resistance to tea tree oil (Hammer et al., 2008).

Antibacterial Properties: Tea tree oil demonstrated ability to kill *Staphylococcus aureus* (Staph) bacteria both within biofilms and in the stationary growth phase at concentrations below 1% (Kwieciński et al., 2009).

Antifungal Properties: Tea tree oil was found to inhibit 301 different types of yeasts isolated from the mouths of cancer patients suffering from advanced cancer, including 41 strains that are known to be resistant to antifungal drugs (Bagg et al., 2006).

Antifungal Properties: Eleven types of Candida were found to be highly inhibited by tea tree oil (Banes-Marshall et al., 2001).

Antifungal Properties: Topical application of 100% tea tree oil was found to have results similar to topical application of 1% clotrimazole (antifungal drug) solution on onychomycosis (also known as tinea, or fungal nail infection) (Buck et al., 1994).

Antifungal Properties: Tea tree oil was found to alter the membrane properties and functions of *Candida albicans* cells, leading to cell inhibition or death (Hammer et al., 2004).

Antifungal Properties: Terpinen-4-ol, a constituent of tea tree oil, and tea tree oil were found to be effective against several forms of vaginal candida infections in rats, including azole-resistant forms (Mondello et al., 2006).

Antifungal Properties: Patients with tinea pedis (athlete's foot) were found to have a higher rate of cure and a higher clinical response when treated topically with 25% or 50% tea tree oil solution compared to control (Satchell et al., 2002).

Antifungal: When applied as a coating to protect oranges after harvest, a mixture containing chitosan and melaleuca essential oil was found to reduce fungal growth by 50% (Cháfer et al., 2012).

Anti-inflammatory Properties: Tea tree oil was found to reduce swelling during a contact hypersensitivity response in the skin of mice sensitized to the chemical hapten (Brand et al., 2002).

Anti-inflammatory Properties: *Melaleuca alternifolia* oil was found to reduce reactive oxygen species (ROS) production in neutrophils (a type of white blood cell), indicating an antioxidant effect and decreased Interleukin 2 (a chemical messenger that helps trigger an inflammatory response) secretion, while increasing the secretion of Interleukin 4 (a chemical messenger involved in turning off the inflammatory response) (Caldefie-Chézet et al., 2006).

Anti-inflammatory Properties: Inhaled tea tree oil was found to have anti-inflammatory influences on male rats with induced peritoneal inflammation (Golab et al., 2007).

Anti-inflammatory Properties: The water soluble terpinen-4-ol component of tea tree was found to suppress the production of pro-inflammatory mediators in human monocytes (a type of white blood cell that is part of the human immune system) (Hart et al., 2000).

Anti-inflammatory Properties: Tea tree oil applied to histamine-induced weal and flare in human volunteers was found to decrease the mean weal volume when compared to a control (Koh et al., 2002).

Antiviral Properties: Tea tree and eucalyptus oil demonstrated ability to inhibit the *Herpes simplex* virus (Schnitzler et al., 2001).

Mites: Tea tree oil scrub and shampoo were found to reduce demodex mite infestation on the eyelids of patients suffering from ocular irritation and inflammation who used this treatment daily for six weeks. It also dramatically decreased ocular irritation and inflammation (Kheirkhah et al., 2007).

Mites: Tea tree oil was found to be effective against both lice and dust mites in a mite chamber assay (Williamson et al., 2007).

Ticks: Essential oil of Melaleuca alternifolia was found to be lethal for more than 80% of Ixodes ricinus tick nymphs (a carrier or Lyme disease) when they inhaled a 10 microl dose of the oil for 90 minutes or more (Iori et al., 2005).

Oral Conditions: In 34 patients with fixed orthodontic appliances, a dental gel containing 5% melaleuca essential oil performed better than Colgate Total gel when comparing microbial biofilm and quantification of Streptococcus mutans in the patients' saliva (Santamaria et al., 2014).

Parasites: Melaleuca oil was effective at killing *Anisakis simplex* larva in vitro. Data suggests that the mechanism of action against anisakis involves inhibition of acetylcholinesterase (Gómez-Rincón et al., 2014).

Melissa (Lemon Balm) *Melissa officinalis*

⊜⊘💧

Quick Facts

Botanical Family: Labiatae (mint)

Extraction Method: Steam distilled from leaves and flowers

Common Primary Uses*: ⊘⊜Calming, ⊜Cold Sores, ⊜⊘Viral Infections

Common Application Methods‡:

⊜: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

⊘: Diffuse, or inhale the aroma directly.

💧: Take in capsules. Use as a flavoring in cooking.

Chemical Constituents: Aldehydes (up to 65%): geranial (<35%), neral (<28%), citronellal (<3%), α-cyclocitral; Sesquiterpenes (<35%): β-caryophyllene (<19%), α-copaene (<5%), germacrene-D (<4%), β-bourbonene, δ- & γ-cadinenes, humulene, β-elemene; Oxides (<11%): caryophyllene oxide (<7%), 1,8 cineol (<4%); Alcohols (<7%): linalol, octen-3ol, nerol, geraniol, citronellol, isopulegol, caryophyllenol, farnesol; Esters (<7%): methyl citronellate (<5%), citronellyl, geranyl, neryl, & linalyl acetates; Ketones (<7%): methyl heptanone (<5%), farnesylacetone, octanone; Monoterpenes (<3%): cis- & trans-ocimenes, l-limonene; Sesquiterpene Alcohols: elemol, α-cadinol; Furanocoumarins: aesculetin.

Properties: Antibacterial, antidepressant, antihistamine, antimicrobial, antispasmodic, antiviral⊜, hypertensive, nervine, sedative⊜, tonic, and uterine.

Historical Uses: Anciently, melissa was used for nervous disorders and many different ailments dealing with the heart or the emotions. It was also used to promote fertility. Melissa was the main ingredient in Carmelite water, distilled in France since 1611 by the Carmelite monks.

Other Possible Uses: Allergies, anxiety, asthma, bronchitis, chronic coughs, colds, cold-sore blisters⊜ (apply directly three times per day), colic⊜, depression, dysentery, eczema, erysipelas, fevers, heart conditions (where there is overstimulation or heat), hypertension, indigestion, insect bites, insomnia, menstrual problems, migraine, nausea, nervous tension, palpitations, shock, sterility (in women), throat infections, vertigo, and vomiting. Dr. Dietrich Wabner, a professor at the Technical University of Munich, reported that a onetime application of true melissa oil led to complete remission of herpes simplex lesions. According to Robert Tisserand, "Melissa is the nearest one can find to a rejuvenator—not something which will make us young again, but which helps to cushion the effect of our mind and the world outside on our body."

Body System(s) Affected: Emotional Balance, Skin.

Aromatic Influence: Melissa has a delicate, delightful, lemony scent that is unique among essential oils, providing a wonderful support to both body and mind. It is calming and uplifting and may help to balance the emotions.

Oral Use As Dietary Supplement: Melissa oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years

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‡See Application section beginning on page 42 for more details on applying essential oils. ⊜=Topical, ⊘=Aromatic, 💧=Internal

old; use with caution and in greater dilution for children 6 years old and over.

Blend Classification: Enhancer, Equalizer, and Modifier.

Blends With: Geranium, lavender, and other floral and citrus oils.

Odor: Type: Middle Note (50-80% of the blend); Scent: Delicate, lemony; Intensity: 2.

Additional Research:

Antiviral Properties: Melissa oil demonstrated inhibition of *Herpes simplex* type 1 and 2 viruses. (Schnitzler et al., 2008).

Cold-sore Blisters: Melissa oil demonstrated inhibition of *Herpes simplex* type 1 and 2 viruses. (Schnitzler et al., 2008).

Sedative Properties: Results of a clinical trial indicate that a combination of melissa and valerian oils may have anxiety-reducing properties at some doses (Kennedy et al., 2006).

Sedative Properties: Melissa (lemon balm) oil applied topically in a lotion was found to reduce agitation and to improve quality of life factors in patients suffering severe dementia compared to those receiving a placebo lotion (Ballard et al., 2002).

Colic: Colic improved in breastfed infants within 1 week of administering a phytotherapeutic agent containing *Matricariae recutita*, *Foeniculum vulgare*, and *Melissa officinalis* when compared to a placebo containing vitamins (Savino et al., 2005).

Atherosclerosis: Melissa essential oil was found to have hypolipidemic effects in transgenic mice. Mice orally administered Melissa essential oil for two weeks had lower plasma triglyceride concentrations and altered metabolic pathways. These results indicate that melissa oil could be beneficial in preventing hypertriglyceridemia, one of the main contributors to the development of cardiovascular disease (Jun et al., 2012).

Diabetes: Oral supplementation of melissa essential oil significantly reduced plasma glucose levels compared with the control group, and increased glucose tolerance in a type 2 diabetic mouse model (Chung et al., 2010).

Myrrh *Commiphora myrrha*

✋☯💧

Quick Facts

Botanical Family: Burseraceae (resinous trees and shrubs)

Extraction Method: Steam distilled from gum/resin

Common Primary Uses*: ☯✋Cancer, ✋Chapped/Cracked Skin, ✋☯Congestion, ✋Dysentery, ✋Gum Disease, ✋☯Hashimoto's Disease, ✋☯Hepatitis, ✋☯Hyperthyroidism, ✋☯Infection, ✋☯Liver Cirrhosis, ✋Skin Ulcers, ✋Stretch Marks, 💧✋Ulcers (Duodenal), ✋Weeping Wounds

Common Application Methods‡:

✋: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

☯: Diffuse, or inhale the aroma directly.

💧: Place 1–2 drops under the tongue, or take in capsules.

Chemical Constituents: Sesquiterpenes (up to 75%): lindestrene (up to 30%), β-, γ-, & δ-elemenes (<40%), α-copaene (<12%), β-bourbonene (<5%), muurolene, δ-cadinene, humulene, curzerene; Furanoids (<27%): methoxyfurogermacrene (<9%), furoendesmadiene (<8%), α-bergamotene (<5%), methylisopropenylfurone (<5%), furfural (<3%), furanodione (<2%), rosefuran; Ketones: (<20%): curzenone (<11%), methylisobutyl ketone (<6%), germacrone (<4%); Triterpenes (<7%): α-amyrin (<4%), α-amyrenone (<3%); Monoterpenes (<6%): ocimene, p-cymene, α-thujene, l-limonene, myrcene; Aldehydes: methylbutynal (<3%), cinnamaldehyde, cuminal; Arenes: xylene; Carboxylic Acids: acetic acid, formic acid, palmitic acid; Phenols: eugenol, cresol.

Properties: Anti-infectious, anti-inflammatory, antiseptic, antitumor, astringent, and tonic.

Historical Uses: Myrrh was used as incense in religious rituals, in embalming, and as a cure for cancer, leprosy, and syphilis. Myrrh, mixed with coriander and honey, was used to treat herpes.

French Medicinal Uses: Bronchitis, diarrhea, dysentery, hyperthyroidism, stretch marks, thrush, ulcers, vaginal thrush, viral hepatitis.

Other Possible Uses: This oil may help with appetite (increase), asthma, athlete's foot, candida, catarrh (mucus), coughs, eczema, digestion, dyspepsia (impaired digestion), flatulence (gas), fungal infection, gingivitis, hemorrhoids, mouth ulcers, decongesting the prostate gland, ringworm, sore throats, skin conditions (chapped, cracked, and inflamed), wounds, and wrinkles.

Body System(s) Affected: Hormonal, Immune, and Nervous Systems; Skin.

Aromatic Influence: It promotes awareness and is uplifting.

Oral Use As Dietary Supplement: Myrrh oil in general is approved by the FDA (21CFR172.510) for use as a Food Additive (FA) and Flavoring Agent (FL). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Use with caution during pregnancy.

Blend Classification: Modifier and Equalizer.

Blends With: Frankincense, lavender, sandalwood, and all spice oils.

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‡See Application section beginning on page 42 for more details on applying essential oils.

✋=Topical, ☯=Aromatic, 💧=Internal

Odor: Type: Base Note (5-20% of the blend); Scent: Warm, earthy, woody, balsamic; Intensity: 4.

Additional Research:

Anti-inflammatory Properties: At subtoxic levels, myrrh oil was found to reduce interleukin (chemical signals believed to play a role in the inflammation response) by fibroblast cells in the gums (Tipton et al., 2003).

Antitumor Properties: Treatment with elemene (found in myrrh oil) was found to increase survival time and to reduce tumor size in patients with malignant brain tumor, as compared to chemotherapy (Tan et al., 2000).

Skin: Myrrh essential oil was shown to be an efficient quencher of singlet oxygen (a type of antioxidant action) by its ability to decrease formation of squalene peroxide in UV irradiated sebum on the facial skin of human subjects. These findings suggest that topical application of myrrh essential oil can help decrease sebum damage and in turn protect skin from aging (Auffray 2007).

Brain—Aging: Three new cadinane sesquiterpenes isolated from myrrh resin were found to have neuroprotective activities against 1-methyl-4-phenylpyridinium induced neuronal cell death in a human derived cell line cells (Xu et al., 2011).

Orange *Citrus sinensis*

✋☀☯💧

Quick Facts

Botanical Family: Rutaceae (citrus)

Extraction Method: Cold-pressed from rind

Common Primary Uses*: ☯Anxiety🧪, ✋Digestion (Sluggish), ☯Fear, ☯✋Heart Palpitations, ☯✋Insomnia, ✋Menopause, ☯✋Nervousness, ☯Uplifting, ✋☯Withdrawal

Common Application Methods‡:

✋: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points. Avoid direct sunlight for up to 12 hours after using on skin.

☯: Diffuse, or inhale the aroma directly.

💧: Place 1–2 drops under the tongue, or take in a beverage. Take in capsules. Use as a flavoring in cooking.

Chemical Constituents: Monoterpenes (up to 95%): d-Limonene (<90%), terpinolene, myrcene, α-pinene; Tetraterpenes (<8%): β-carotene (<6%), lycopene; Aldehydes (<8%): citral, decanal, citronellal, dodecanal, nonanal, octanal, α-sinensal; Alcohols (<6%): linalol, cis & trans-carveol, α-terpineol, geraniol; Ketones (<4%): l- & d-carvone (<3%), α-ionone; Esters (<3%): citronellyl acetate, geranyl acetate, linalyl acetate, methyl anthranilate; Furanoids: auraptene, bergaptol, imperatarine; Sesquiterpene Ketones: nootkatone.

Properties: Anticancer🧪, antidepressant, antiseptic, antispasmodic, digestive, sedative🧪, and tonic.

Historical Uses: Oranges, particularly the bitter oranges, have been used for palpitation, scurvy, jaundice, bleeding, heartburn, relaxed throat, prolapse of the uterus and the anus, diarrhea, and blood in the feces.

French Medicinal Uses: Angina (false), cardiac spasm, constipation, diarrhea (chronic), dyspepsia (nervous), insomnia, menopause, palpitation.

Other Possible Uses: This oil may help appetite, bones (rickety), bronchitis, colds, colic (dilute for infants; helps them sleep), complexion (dull and oily), dermatitis, digestive system, fever, flu, lower high cholesterol, mouth ulcers, muscle soreness, obesity, sedation, tissue repair, water retention, and wrinkles.

Body System(s) Affected: Digestive and Immune Systems, Emotional Balance, Skin.

Aromatic Influence: Orange is calming and uplifting to the mind and body.

Oral Use As Dietary Supplement: Orange oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Avoid direct sunlight for up to 12 hours after use.

Blend Classification: Enhancer and Personifier.

Blends With: Cinnamon, frankincense, geranium, and lavender.

Odor: Type: Top Note (5-20% of the blend); Scent: Fresh, citrusy, fruity, sweet; Intensity: 1.

🧪 Additional Research:

Anxiety: Healthy male subjects displayed reduced anxiety after five minutes of inhalation of orange essential oil compared to the inhalation of melaleuca essential oil or distilled water when submitted to an anxiety inducing situation (Goes et al., 2012).

Anxiety: Rats subjected to the elevated plus-maze following exposure to the aroma of orange essential oil for five minutes displayed reduced anxiety as compared to exposure to melaleuca essential oil (Faturi et al., 2010).

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‡*See Application section beginning on page 42 for more details on applying essential oils.*

✋=Topical, ☯=Aromatic, 💧=Internal

Anxiety: Dental patients (aged 6-9 years) displayed reduce salivary cortisol, pulse rate, and anxiety while undergoing dental treatments when inhaling wild orange essential oil, compared to no aroma (Jafarzadeh et al., 2013).

Anticancer Properties: In a study of older individuals, it was found that there was a dose-dependent relationship between citrus peel consumption (which is high in d-Limonene) and a lower degree of squamous cell carcinoma (SCC) of the skin (Hakim et al., 2000).

Anticancer Properties: In clinical trials, d-Limonene (found in most citrus oils, dill, caraway, citronella, and nutmeg) was found to elicit a response (kept patients stable) in some patients in advanced stages of cancer (1 breast and 3 colorectal carcinoma of 32 total patients). A secondary trial with just breast cancer patients did not elicit any responses (Vigushin et al., 1998).

Sedative Properties: Female patients waiting for dental treatment were found to be less anxious, more positive, and more calm when exposed to orange oil odor than patients who were not exposed to the orange oil odor (Lehrner et al., 2000).

Sedative Properties: Patients waiting for dental treatment were found to be less anxious and to have a better mood when exposed to the odor of lavender or orange oil compared to control (Lehrner et al., 2005).

Addiction: Injection of limonene, a common terpene found in many citrus essential oils, inhibited behavioral manifestations of drug use on rats administered methamphetamine (METH). Examination of the nucleus accumbens of the rats revealed that limonene may produce its effects by regulating dopamine levels and serotonin receptor function (Yun, 2014).

Oregano *Origanum vulgare*

✋🌀💧

Quick Facts

Botanical Family: Labiatae

Extraction Method: Steam distilled from herb

Common Primary Uses*: 🌀✋Athlete's Foot, ✋Calluses, ✋💧Candida, ✋Canker Sores, ✋Carpal Tunnel Syndrome, ✋Ebola Virus, ✋🌀💧Fungal Infections, ✋🌀💧Immune System (Stimulates), ✋Inflammation, 💧✋Intestinal Parasites, ✋MRSA, ✋Muscle Aches, ✋🌀Nasal Polyp, 💧✋Parasites, ✋🌀Plague, 🌀✋Pneumonia, 🌀✋Ringworm, ✋💧Staph Infection, ✋💧Vaginal Candida, ✋Viral Infections, ✋Warming (Body), ✋Warts, ✋Whooping Cough

Common Application Methods‡:

✋: Dilute 1:3 (1 drop essential oil to at least 3 drops carrier oil) when used topically. Dilute more heavily for children over 6 or for those with sensitive skin. Apply directly on area of concern or to reflex points.

🌀: Diffuse, or inhale the aroma directly.

💧: Dilute and take in capsules. Use as a flavoring in cooking.

Chemical Constituents: Phenols (up to 80%): carvacrol (<75%), thymol (<5%), terpinen-4-ol; Monoterpenes (<25%): p-cymene (<10%), γ-terpinene (<9%), myrcene (<3%), α- and β-pinenes, camphene, l-limonene, α-terpinene; Sesquiterpenes (<6%): β-caryophyllene (<5%), β-bisabolene; Carboxylic Acids: rosmaric acid (<5%); Esters: linalyl acetate (<4%); Ketones: camphor, d-carvone; Alcohols: borneol, linalol, α-terpineol.

Properties: Antibacterial, antifungal, antiparasitic, antiseptic to the respiratory system, antiviral, and immune stimulant.

French Medicinal Uses: Asthma, bronchitis (chronic), mental disease, pulmonary tuberculosis, and rheumatism (chronic).

Other Possible Uses: This oil may help colds, digestive problems, metabolic balance, obesity, viral and bacterial pneumonia, and strengthen vital centers.

Body System(s) Affected: Immune and Respiratory Systems, Muscles and Bones.

Aromatic Influence: Strengthens one's feeling of security.

Application: Dilute 1:3 (1 drop essential oil to 3 drops carrier oil) when used topically. Apply to reflex points and directly on area of concern; diffuse.

Oral Use As Dietary Supplement: Oregano oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Can cause extreme skin irritation.

Blend Classification: Enhancer and Equalizer.

Blends With: Basil, fennel, geranium, lemongrass, thyme, and rosemary.

Odor: Type: Middle Note (50-80% of the blend); Scent: Herbaceous, sharp; Intensity: 5.

Additional Research:

Antibacterial Properties: Oregano oil was found to inhibit MRSA (Nostro et al., 2004).

Antibacterial Properties: Oregano oil was found to kill antibiotic-resistant strains of *Staph, E. coli, Klebsiella pneumoniae, Helicobacter pylori*, and *Mycobacterium terrae* (Preuss et al., 2005).

Antifungal Properties: The vapor of oregano oil was found to be fungicidal against the *Trichophyton mentagrophytes* fungi (a fungi that causes a skin infection known as Malabar itch) (Inouye et al., 2006).

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‡*See Application section beginning on page 42 for more details on applying essential oils.* ✋=Topical, 🌀=Aromatic, 💧=Internal

Antifungal Properties: In a test of nine oils, clove (followed by cinnamon, oregano, and mace oils) was found to be inhibitory to two toxin-producing fungi (Juglal et al., 2002).

Antifungal Properties: Mice infected with *Candida albicans* who were fed origanum oil or carvacrol diluted in olive oil had an 80% survival rate after 30 days, while infected mice fed olive oil alone all died after 10 days (Manohar et al., 2001).

Antifungal Properties: Cinnamon, thyme, oregano, and cumin oils inhibited the production of aflatoxin by aspergillus fungus (Tantaoui-Elaraki et al., 1994).

Antiparasitic Properties: Oregano oil administered orally was found to improve gastrointestinal symptoms in 7 of 11 patients who had tested positive for the parasite *Blastocystis hominis* and caused the disappearance of this parasite in 8 cases (Force et al., 2000).

Immune Stimulant Properties: Growth-retarded pigs receiving a supplementation of oregano leaves and flowers enriched with cold-pressed oregano oil were found to have increased growth, decreased mortality, and higher numbers of immune-system cells and compounds when compared to control pigs who did not receive supplementation (Walter et al., 2004).

Weight—obesity: After 10 weeks of feeding, the body weight gain, visceral fat-pad weights, and final body weights of mice fed a high-fat diet and carvacrol were significantly lower than that of mice fed a high-fat diet without carvacrol (specifically a 24% decrease in final body weight, a 43% decrease in body weight gain, and a 36% decrease in total visceral fat-pad weight was observed when carvacrol was ingested)(Cho et al., 2012). Interestingly, the food intake during the 10-week feeding period did not differ among the groups and mRNA expressions were different between the two groups (Cho et al., 2012).

Antioxidant: The antioxidant activity of oregano essential oil added to extra virgin olive oil at 0.05% was found to retard the lipid oxidation process in olive oil and prolong the olive oil's shelf life (Asensio et al., 2011).

Cats—Antifungal: Four out of seven cats with the fungus mycoses (*Microsporum canis*) recovered both clinically and culturally with topical application of diluted oregano oil for a month (Mugnaini et al., 2012).

Anxiety: Carvacrol is a monoterpenic phenol found in thyme and oregano. Oral administration of carvacrol produced antianxiety-like effects in mice (Melo et al., 2010).

Colon—Colitis: Oral administration of thyme and oregano oil at a dose of 0.2% thyme and 0.1% oregano was found to be effective in decreasing the mortality rate, accelerating body weight gain recovery, and significantly reducing the macroscopic damage of colonic tissue of mice with induced colitis (Bukovska et al., 2007).

Patchouli (or Patchouly) *Pogostemon cablin*

◑◎💧

Quick Facts

Botanical Family: Labiatae (mint)

Extraction Method: Steam-distilled from leaves

Common Primary Uses*: ◑Diuretic, 💧◑◎Fever, ◑◎Mosquito Repellent, ◑◎Termite Repellent

Common Application Methods‡:

◑: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

◎: Diffuse, or inhale the aroma directly.

💧: Take in capsules.

Chemical Constituents: Sesquiterpenes (up to 63%): α-bulnesene (<20%), β-bulnesene (<16%), aromadendrene (<15%), α-gaiene (>12%), seychellene (6%), α-, β- & γ-patchoulenes (<12%), β-caryophyllene (<4%), δ-cadinene (<3%), β-gaiene, β-elemene, humulene; Sesquiterpene Alcohols (<38%): patchoulol (up to 35%), pogostol, bulnesol, guaiol, patchoulenol; Oxides (<5%): bulnesene oxide, caryophyllene oxide, guaiene oxide; Ketones: patchoulenone (<3%); Monoterpenes: α- & β-pinenes, l-limonene.

Properties: Anti-infectious, anti-inflammatory, antifungal, antiseptic, antitoxic, astringent, decongestant, deodorant, diuretic, insecticidal, stimulant (digestive), and tonic.

Historical Uses: For centuries, the Asian people used patchouli to fight infection, cool fevers, tone the skin (and entire body), and to act as an antidote for insect and snake bites. It was also used to treat colds, headaches, nausea, vomiting, diarrhea, abdominal pain, and halitosis (bad breath).

French Medicinal Uses: Allergies, dermatitis, eczema, hemorrhoids, tissue regeneration.

Other Possible Uses: This oil is a digester of toxic material in the body. It may also help acne, appetite (curbs), bites (insect and snake), cellulite, congestion, dandruff, depression, digestive system, relieve itching from hives, mastitis, skin conditions (chapped and tightens loose skin), UV radiation (protects against), water retention, weeping wounds, weight reduction, and wrinkles prevention.

Body System(s) Affected: Skin.

Aromatic Influence: It is sedating, calming, and relaxing—allowing it to reduce anxiety. It may have some particular influence on sex, physical energy, and money.

Oral Use As Dietary Supplement: Patchouli oil in general is approved by the FDA for use as a Food Additive (FA) and Flavoring Agent (FL). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Blend Classification: Enhancer

Blends With: Bergamot, clary sage, frankincense, geranium, ginger, lavender, lemongrass, myrrh, pine, rosewood, sandalwood.

Odor: Type: Base Note (5-20% of the blend); Scent: Earthy, herbaceous, sweet-balsamic, rich, with woody undertones; Intensity: 4.

Additional Research:

Insecticidal Properties: In a test of 34 different essential oils, patchouli (*Pogostemon cablin*) oil proved to be the most effective insecticide against the common house fly (Pavela, 2008).

Insecticidal Properties: Both patchouli oil and its constituent, patchouli alcohol (patchoulol), were found to be repellent and insecticidal to Formosan termites when applied topically (Zhu et al., 2003).

Insecticidal Properties: Clove, citronella, and patchouli oils were found to effectively repel 3 species of mosquitoes (Trongtokit et al., 2005).

Pregnancy/Motherhood—Mastitis: Patchouli alcohol (a tricyclic sesquiterpene and an essential oil of Pogostemon cablin) was found to inhibit chemically induced mastitis in a mouse model by inhibiting inflammation, suggesting patchouli may prevent mastitis (Li et al., 2014).

Calming Aromatic Influence: Inhalation of essential oils such as pepper, estragon, fennel, and grapefruit was found to have a stimulating effect on sympathetic activity, while inhalation of essential oils of rose or patchouli caused a decrease in sympathetic activity in healthy adults (Haze et al., 2002).'

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‡See Application section beginning on page 42 for more details on applying essential oils.

◑ Topical, ◎ Aromatic, 💧 Internal

Peppermint *Mentha piperita*

✋🌀💧

Quick Facts

Botanical Family: Labiatae (mint)

Extraction Method: Steam distilled from leaves

Common Primary Uses*: 🌀✋Alertness, 💧✋🌀Antioxidant, 🌀✋Asthma, ✋Autism, ✋Bacterial Infections, ✋🌀Bell's Palsy, 🌀✋Brain Injury, ✋🌀Chronic Fatigue, ✋Cold Sores, 💧✋Colon Polyps, ✋🌀Congestion, ✋Constipation, ✋🌀Cooling (Body), ✋Cramps/Charley Horses, ✋💧Crohn's Disease, 💧✋Diarrhea, ✋Dysmenorrhea, 🌀Endurance○, 🌀Fainting, 💧✋🌀Fever, 🌀✋💧Flu (Influenza), 💧✋Gamma Radiation Exposure○, ✋💧Gastritis, ✋Halitosis, ✋🌀Headaches○, ✋Heartburn, ✋Heatstroke, ✋Hernia (Hiatal), ✋Herpes Simplex, ✋Hives, ✋Hot Flashes, ✋🌀Huntington's Disease, ✋🌀Hypothyroidism, 💧✋🌀Indigestion, 💧✋Irritable Bowel Syndrome○, ✋Itching, ✋Jet Lag, ✋Lactation (Decrease Milk Production), 🌀✋Memory○, ✋🌀Migraines, 🌀Motion Sickness, ✋MRSA, ✋🌀Multiple Sclerosis, ✋Muscle Aches, ✋Muscle Fatigue, 🌀✋Myelin Sheath, 🌀Nausea○, 🌀✋Olfactory Loss (Sense of Smell), ✋Osteoporosis, ✋🌀Paralysis, 🌀✋Rhinitis, ✋Scabies, ✋Sciatica, ✋🌀Shock, 🌀✋Sinusitis, ✋Surgical Wounds, ✋Swollen Eyes, ✋Tennis Elbow, ✋🌀💧Throat Infection, ✋🌀Typhoid, 💧✋Ulcer (Gastric), ✋Varicose Veins, 💧🌀Vomiting

Common Application Methods‡:

✋: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to 1 drop carrier oil) for children and for those with sensitive skin when using topically. Apply directly on area of concern or to reflex points.

🌀: Diffuse, or inhale the aroma directly.

💧: Place 1–2 drops under the tongue or in a beverage. Take in capsules. Use as a flavoring in cooking.

Chemical Constituents: Phenolic Alcohols (up to 44%): menthol (<44%), piperitols; Ketones (<25%): menthone (20-30% and up to 65% if distilled in September when flowering), pulegone (<5%), piperitone (<2%), carvone, jasmone; Monoterpenes (< 15%): α and β-pinenes (<6%), l-limonene (<6%), ocimene, myrcene, p-cymene, β-phellandrene, sabinene, α-terpinene, terpinolene, camphene; Sesquiterpenes (<10%): germacrene-D (<5%), β-bourbonene, ζ-bulgarene, γ-cadinene, β-caryophyllene, β-elemene, β-farnesene, muurolene; Esters (<9%): menthyl acetate (<9%), also menthyl butyrate & isovalerate; Oxides (<9%): 1,8 cineol (<5%), piperitone oxide, caryophyllene oxide; Furanoids: menthofuran (<8%); Phenols: terpinen-4-ol (<3%); Alcohols (<3%): α-terpineol, linalol; Sesquiterpene Alcohols: viridiflorol; Furanocoumarins: aesculetin; Sulphides: mint sulfide, dimenthyl sulfide.

Properties: Analgesic, antibacterial○, anticarcinogenic, anti-inflammatory○, antiseptic, antispasmodic○, antiviral○, and invigorating.

Historical Uses: For centuries, peppermint has been used to soothe digestive difficulties, freshen breath, and to relieve colic, gas, headaches, heartburn, and indigestion.

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*See Personal Usage Guide section for more detail on these primary uses

🔵 = Neat, 🟣 = Dilute for Children/Sensitive Skin, 🔴 = Dilute

French Medicinal Uses: Asthma, bronchitis, candida, diarrhea, digestion (aids), fever (reduces), flu, halitosis, heartburn, hemorrhoids, hot flashes, indigestion, menstrual irregularity, migraine headache, motion sickness, nausea, respiratory function (aids), shock, skin (itchy), throat infection, varicose veins, vomiting.

Other Possible Uses: This oil may help anger, arthritis, colic, depression, fatigue, food poisoning, hysteria, inflammation, liver problems, nerves (regenerate and support), rheumatism, seizures, elevate and open sensory system, soothe and cool skin (may help keep body cooler on hot days), toothaches, tuberculosis, and add flavor to water.

Body System(s) Affected: Digestive System, Muscles and Bones, Nervous and Respiratory Systems, Skin.

Aromatic Influence: It is purifying and stimulating to the conscious mind and may aid with memory and mental performance. It is cooling and may help reduce fevers.

Oral Use As Dietary Supplement: Peppermint oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Repeated use can possibly result in contact sensitization. Use with caution if dealing with high blood pressure. Use with caution during pregnancy.

Blend Classification: Personifier

Odor: Type: Middle Note (50-80% of the blend); Scent: Minty, sharp, intense; Intensity: 5.

Additional Research:

Endurance: A quasi experiment comparing exercise performance before and after consumption of mineral water containing peppermint essential oil for 10 days found that exercise performance improved after consumption of peppermint oil (including increases in respiratory efficiency, energy expenditure, time to exhaustion, and distance during exercise and decreases in resting and exercise heart rates) (Meamarbashi et al., 2013).

Gamma Radiation Exposure: In mice exposed to whole-body gamma irradiation, only 17% of mice who had been fed peppermint oil died, while 100% of mice who did not receive peppermint oil died. It was also found that mice pre-fed peppermint oil were able to return blood cell levels to normal after 30 days, while control mice were not (and consequently died), suggesting a protective or stimulating effect of the oil on blood stem cells (Samarth et al., 2004).

Gamma Radiation Exposure: Peppermint extract fed orally to mice demonstrated the ability to protect the testis from gamma radiation damage (Samarth et al., 2009).

Headaches: A combination of peppermint oil and ethanol was found to have a significant analgesic effect with a reduction in sensitivity to headache; while a combination of peppermint, eucalyptus, and ethanol was found to relax muscles and to increase cognitive performance in humans (Göbel et al., 1994).

Irritable Bowel Syndrome: In irritable bowel syndrome patients without bacterial overgrowth, lactose intolerance, or celiac disease, peppermint oil was found to reduce IBS symptoms significantly more than a placebo over 8 weeks (Cappello et al., 2007).

Irritable Bowel Syndrome: Children suffering from irritable bowel syndrome (IBS) who received peppermint oil in enteric-coated capsules (encapsulated so the capsules wouldn't open until they reached the intestines) reported a reduced severity of pain associated with IBS (Kline et al., 2001).

Irritable Bowel Syndrome: Patients with IBS symptoms who took a peppermint-oil formulation in an enteric-coated capsule were found to have a significantly higher reduction of symptoms compared to patients taking a placebo (Liu et al., 1997).

Irritable Bowel Syndrome: Peppermint oil in enteric-coated capsules was found to relieve symptoms of irritable bowel syndrome better than a placebo in patients suffering from IBS (Rees et al., 1979).

Memory: In human trials, the aroma of peppermint was found to enhance memory and to increase alertness (Moss et al., 2008).

Nausea: Oral administration of capsules containing two drops of either spearmint or peppermint oil to cancer patients during chemotherapy cycles was found to reduce the intensity of nausea when compared to the control (Tayarani-Najaran et al., 2013).

Antibacterial Properties: Subjects using a mouthwash containing thymol, menthol, methyl salicylate, and eucalyptol for 6 months were found to not have developed oral bacteria that were resistant to the oils (Charles et al., 2000).

Antibacterial Properties: Peppermint and spearmint oil inhibited resistant strains of *Staphylococcus, E. Coli, Salmonella*, and *Helicobacter pylori* (Imai et al., 2001).

Antibacterial Properties: Peppermint and rosemary oils were each found to be more effective at preventing dental biofilm (plaque) formation than chlorhexidine (an antiseptic) (Rasooli et al., 2008).

Antibacterial Properties: Peppermint oil blended with toothpaste was found to be more effective at lower concentrations in inhibiting the formation of dental plaque than chlorhexidine (an antiseptic) in human volunteers (Shayegh et al., 2008).

Anti-inflammatory Properties: A combination of peppermint and caraway oil was found to reduce visceral hyperalgesia (pain hypersensitivity in the gastrointestinal tract) after induced inflammation in rats (Adam et al., 2006).

Anti-inflammatory Properties: L-menthol was found to inhibit production of inflammation mediators in human monocytes (a type of white blood cell involved in the immune response) (Juergens et al., 1998).

Antispasmodic Properties: Peppermint oil was found to be as effective as Buscopan (an antispasmodic drug) at preventing spasms during a barium enema (a type of enema used to place barium in the colon for X-ray imaging purposes) (Asao et al., 2003).

Antiviral Properties: Peppermint oil demonstrated a direct virucidal activity against Herpes type 1 and 2 viruses (Schuhmacher et al., 2003).

Digestion (aid): The use of rosemary, lemon, and peppermint oils in massage demonstrated an ability to reduce constipation and to increase bowel movements in elderly subjects compared to massage without the oils (Kim et al., 2005).

Indigestion: In patients with dyspepsia (indigestion), treatments with capsules containing peppermint and caraway oil were found to decrease pain and pain frequency (Freise et al., 1999).

Indigestion: An enteric-coated capsule with peppermint and caraway oil was found to reduce pain and symptoms in patients with non-ulcer dyspepsia (indigestion) compared to a control (May et al., 1996).Gamma Radiation Exposure: Mice pretreated with peppermint leaf extract demonstrated less bone marrow cell loss than mice not pretreated with peppermint when exposed to gamma radiation (Samarth et al., 2007).

Nerves: Pretreatment of human and rat astrocyte cells (cells found in the nerve and brain that support the blood-brain barrier and help repair the brain and spinal cord following injuries) with peppermint oil was found to inhibit heat-shock-induced apoptosis of these cells (Koo et al., 2001).

Seizure: Mice pretreated with an injection of peppermint essential oil demonstrated no seizures and 100% post-treatment survival after being injected with a lethal dose of pentylenetetrazol (PTZ) to cause seizures (Koutroumanidou et al., 2013).

Roman Chamomile *Chamaemelum nobile or Anthemis nobilis*

✋🌀💧

Quick Facts

Botanical Family: Compositae (daisy)

Extraction Method: Steam distillation from flowers

Common Primary Uses*: ✋Bee/Hornet Stings, 🌀✋Calming, ✋Club Foot, ✋Dysentery, 🌀✋Hyperactivity, 🌀✋Insomnia, ✋Menopause, ✋Muscle Spasms, ✋Neuralgia, ✋Neuritis, 💧✋Parasites, ✋Rashes, ✋Sciatica, ✋Shock, ✋Skin (Dry), ✋Sore Nipples

Common Application Methods‡:

✋: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to 1 drop carrier oil) for children and for those with sensitive skin when using topically.

🌀: Diffuse, or inhale the aroma directly.

💧: Take in capsules.

Chemical Constituents: Esters (up to 75%): isobutyl angelate (up to 25%), isoamyl methacylate (up to 25%), amyl butyrate (<15%), other angelate, butyrate, acetate, and tiglate esters; Monoterpenes (<35%): α- & β-pinenes (<20%), terpinenes, sabinene, camphene, d-Limonene, p-cymene, myrcene; Ketones: pinocarvone (14%); Sesquiterpenes (up to 12%): β-caryophyllene, chamazulene; Alcohols (>7%): trans-pinocarveol, farnesol, nerolidol.

Properties: Anti-infectious, anti-inflammatory, antiparasitic, antispasmodic, calming, and relaxing.

Historical Uses: It was traditionally used by the ancient Romans to give them a clear mind and to empower them with courage for their battles. According to Roberta Wilson, "Chamomile was nicknamed the 'plant's physician' because it supposedly cured any ailing plant placed near it."

French Medicinal Uses: Intestinal parasites, neuritis, neuralgia, shock (nervous).

Other Possible Uses: Chamomile neutralizes allergies and increases the ability of the skin to regenerate. It is a cleanser of the blood and also helps the liver to reject poisons and to discharge them. This oil may help with allergies, bruises, cuts, depression, insomnia, muscle tension, nerves (calming and promoting nerve health), restless legs, and skin conditions such as acne, boils, dermatitis, eczema, rashes, and sensitive skin. Chamomile is mild enough to use on infants and children. For centuries, mothers have used chamomile to calm crying children, ease earaches, fight fevers, soothe stomachaches and colic, and relieve toothaches and teething pain. It can safely and effectively reduce irritability and minimize nervousness in children, especially hyperactive children.

Body System(s) Affected: Emotional Balance, Nervous System, Skin.

Aromatic Influence: Because it is calming and relaxing, it can combat depression, insomnia, and stress. It eliminates some of the emotional charge of anxiety, irritability, and nervousness. It may also be used to soothe and clear the mind, creating an atmosphere of peace and patience.

Oral Use As Dietary Supplement: Roman chamomile oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

See Personal Usage Guide section for more details on these primar

🔵=Neat, 🟣=Dilute for Children/Sensitive Skin, 🔴=Dilute

Safety Data: Can irritate sensitive skin.

Blend Classification: Personifier

Blends With: Lavender, rose, geranium, and clary sage.

Odor: Type: Middle Note (50-80% of the blend); Scent: Fresh, sweet, fruity-herbaceous, apple-like, no tenacity; Intensity: 4.

Additional Research:

Anxiety and Sleep: A study with 56 percutaneous coronary intervention patients in an intensive care unit found that an aromatherapy blend of lavender, Roman chamomile, and neroli decreased anxiety and improved sleep quality when compared to conventional nursing intervention (Cho et al., 2013).

Anti-inflammatory Properties: Chamazulene, a chemical in chamomile oil, was found to block formation of leukotriene (a signaling chemical involved in the inflammation process) in neutrophilic (immune system) granulocytes (white blood cells containing granules). It also demonstrated an antioxidant effect (Safayhi et al., 1994).

Rose *Rosa damascena*

Quick Facts

Botanical Family: Rosaceae

Extraction Method: Steam distilled from flowers (a two-part process)

Common Primary Uses*: Aphrodisiac, Poison Ivy/Oak, Scarring (Prevention)

Common Application Methods‡:

● : Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

● : Diffuse, or inhale the aroma directly.

● : Take in capsules. Use as a flavoring in cooking.

Chemical Constituents: Alcohols (up to 70%): citronellol (up to 45%), geraniol (up to 28%), nerol (<9%), linalol, borneol, α-terpineol; Monoterpenes (<25%): stearoptene (<22%), α & β-pinenes, camphene, α-terpinene, l-limonene, myrcene, p-cymene, ocimene; Alkanes (<19%): nonadecane (<15%), octadecane, eicosane, and others; Esters (<5%): geranyl, neryl, and citronellyl acetates; Phenols (<4%): eugenol, phenylethanol; Sesquiterpene Alcohols: farnesol (<2%); Oxides: rose oxide; Ketones: α- & β-damascenone, β-ionone; Furanoids: rosefuran; Many other trace elements.

Properties: Antihemorrhagic, anti-infectious, aphrodisiac, and sedative.

Historical Uses: The healing properties of the rose have been utilized in medicine throughout the ages and still play an important role in the East. Rose has been used for digestive and menstrual problems, headaches and nervous tension, liver congestion, poor circulation, fever (plague), eye infections, and skin complaints.

Other Possible Uses: This oil may help aging, asthma, chronic bronchitis, frigidity, gingivitis, hemorrhaging, herpes simplex, impotence, infections, prevent scarring, seizures, sexual debilities, skin disease, sprains, thrush, tuberculosis, ulcers, wounds, and wrinkles.

Body System(s) Affected: Emotional Balance, Skin.

Aromatic Influence: It is stimulating and elevating to the mind, creating a sense of well-being. Its beautiful fragrance is almost intoxicating and aphrodisiac-like.

Oral Use As Dietary Supplement: Rose oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Use with caution during pregnancy.

Blend Classification: Personifier, Enhancer, Equalizer, and Modifier

Odor: Type: Middle to Base Notes (20-80% of the blend); Scent: Floral, spicy, rich, deep, sensual, green, honey-like; Intensity: 3.

Additional Research:

Sedative Properties: Rose oil was found to have effects similar to the antianxiety drug diazepam (Valium) in mice but through a different cellular mechanism (Umezu, 1999).

Digestive System: Rose essential oil and its main constituents were found to inhibit rat isolated ileum (a section of the small intestine), suggesting that rose oil can be used as an antispasmodic remedy for treatment of abdominal spasm (Sadraei et al., 2013).

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*See Personal Usage Guide section for more details on these primary uses. ● = Neat, ● = Dilute for Children/Sensitive Skin, ● = Dilute

Female Specific Conditions—Dysmenorrhea: A study with 92 university age female students with primary dysmenorrhea found that ingestion of a capsule containing 200 mg of Rosa damascena extract every 6 hours at the first 3 days of menstruation was as effective as administration of Mefenamic acid (a drug with possible adverse reactions and side effects) (Bani et al., 2014).

Brain—Aging: The chloroform extract of *Rosa damascena* was found to cause neurite outgrowth activity in rat cortical neurons subjected to neurotic atrophy conditions. These findings suggest that *Rosa damascena* possesses neuronal protective properties that may benefit persons with dementia (Awale et al., 2011).

Aging—Memory: Oral administration of Rosa damascena extract for one month was found to enhance adult neurogenesis, hippocampal volume, and synaptic plasticity, as well as reverse the amyloid-β-associated memory abnormalities in a rat model of amyloid-β-induced Alzheimer's disease. These results indicate that rose extract may have memory-enhancing ability (Esfandiary et al., 2014).

Seizure: Aqueous and ethanolic extracts of Rosa damascena were found to have potential anticonvulsant effect in drug-induced seizure model mice (Hosseini et al., 2011).

Seizure: Injection of rose essential oil before induction of amygdala kindling seizures in male rats significantly retarded the development of seizure stages and possessed the ability to counteract kindling stimulation when compared to the control group (Ramezani et al., 2008).

Rosemary *Rosmarinus officinalis CT 1,8 Cineol*

🖐🌀💧

Quick Facts

Botanical Family: Labiatae (mint)

Extraction Method: Steam distilled from flowering plant

Common Primary Uses*: 🖐🌀Addictions (Alcohol), 🖐Adenitis, 💧🖐🌀Antioxidant, 🖐Arterial Vasodilator, 🖐🌀Arthritis, 🖐🌀Bell's Palsy, 🖐🌀Cancer, 🖐Cellulite, 🌀🖐Chemical Stress, 🖐Cholera, 🖐Club Foot, 🖐Constipation, 🖐Detoxification, 🖐🌀Diabetes, 🖐Diuretic, 🌀Fainting, 🖐🌀Fatigue, 🌀🖐Flu (Influenza), 🖐Greasy/Oily Hair, 🖐Hair (Loss), 🖐🌀Headaches, 🖐Inflammation, 🖐Kidney Infection, 🖐Lice, 🌀🖐Low Blood Pressure, 🌀🖐Memory, 🖐Muscular Dystrophy, 🖐Osteoarthritis, 🖐Schmidt's Syndrome, 🌀🖐Sinusitis, 🖐Vaginal Infection, 🖐Vaginitis, 🖐🌀Viral Hepatitis, 🖐💧Worms

Common Application Methods‡:

🖐: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to 1 drop carrier oil) for children and for those with sensitive skin when used topically. Apply directly on area of concern or to reflex points. Avoid use during pregnancy.

🌀: Diffuse, or inhale the aroma directly.

💧: Take in capsules, or place 1–2 drops under the tongue. Use as a flavoring in cooking.

Chemical Constituents: Oxides: 1,8 cineol (up to 55%), caryophyllene oxide, humulene oxide; Monoterpenes: α-pinene (<14%), β-pinene (<9%), camphene (<8%), l-limonene, myrcene, p-cymene, α- & β-phellandrenes, α- & γ-terpinenes; Ketones (<32%): camphor (<30%), β-thujone, verbenone, d-carvone, hexanone, heptanone; Alcohols (<20%): borneol (<12%), α-terpineol (<5%), linalol, verbenol; Sesquiterpenes (<3%): β-caryophyllene, humulene; Phenols: terpinen-4-ol; Esters: bornyl and fenchyl acetates; Acids: rosemaric acid.

Properties: Analgesic, antibacterial, anticancer, anticatarrhal, antifungal, anti-infectious, anti-inflammatory, antioxidant, and expectorant.

Historical Uses: The rosemary plant was regarded as sacred by many civilizations. It was used as a fumigant to help drive away evil spirits and to protect against plague and infectious illness.

French Medicinal Uses: Arthritis, blood pressure (low), bronchitis, cellulite, cholera, colds, dandruff, depression (nervous), diabetes, fatigue (nervous/mental), flu, fluid retention, hair loss, headache, hepatitis (viral), menstrual periods (irregular), sinusitis, tachycardia, vaginitis.

Other Possible Uses: This oil may help arteriosclerosis, bronchitis, chills, colds, colitis, cystitis, dyspepsia, nervous exhaustion, immune system (stimulate), otitis, palpitations, prevent respiratory infections, sour stomach, stress-related illness. Note: This chemotype is said to be best used for

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**See Personal Usage Guide section for more details on these primary uses.*

● =Neat, ● =Dilute for Children/Sensitive Skin, ● =Dilute

pulmonary congestion, slow elimination, candida, chronic fatigue, and infections (especially staph and strep).

Body System(s) Affected: Immune, Respiratory, and Nervous Systems.

Aromatic Influence: Stimulates memory and opens the conscious mind.

Oral Use As Dietary Supplement: Rosemary oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Avoid during pregnancy. Not for use by people with epilepsy. Avoid if dealing with high blood pressure.

Blend Classification: Enhancer

Blends With: Basil, frankincense, lavender, peppermint, eucalyptus, and marjoram.

Odor: Type: Middle Note (50-80% of the blend); Scent: Herbaceous, strong, camphorous, with woody-balsamic and evergreen undertones; Intensity: 3.

Additional Research:

Blood Pressure—Low: Oral treatment with rosemary essential oil on primary hypotensive subjects was found to increase blood pressure values when compared to the subjects' placebo treatments before and after rosemary treatment (Fernández et al., 2014).

Analgesic Properties: An ethanol extract of rosemary was found to demonstrate antinociceptive (pain-blocking) and anti-inflammatory activity in mice and rats (González-Trujano et al., 2007).

Antibacterial Properties: Peppermint and rosemary oils were each found to be more effective at preventing dental biofilm (plaque) formation than chlorhexidine (an antiseptic) (Rasooli et al., 2008).

Anticancer Properties: An ethanol extract of rosemary was found to have an antiproliferative effect on human leukemia and breast carcinoma cells, as well as an antioxidant effect (Cheung et al., 2007).

Anticancer Properties: Rosemary extract injected in rats was found to decrease mammary adenocarcinomas in rats (Singletary et al., 1996).

Anticancer Properties: Carnosic acid (derived from rosemary) was found to inhibit the proliferation of human leukemia cells in vitro (Steiner et al., 2001).

Antifungal Properties: Rosemary oil was found to inhibit aflatoxin production by aspergillus fungi (a highly toxic and carcinogenic substance produced by these fungi (Rasooli et al., 2008).

Anti-inflammatory Properties: Rosemary oil was found to have anti-inflammatory and peripheral antinociceptive (pain-sensitivity-blocking) properties in mice (Takaki et al., 2008).

Antioxidant Properties: Extracts from rosemary were found to have high antioxidant properties. Rosmarinic acid and carnosic acid from rosemary were found to have the highest antioxidant activities of studied components of rosemary (Almela et al., 2006).

Antioxidant Properties: Extracts from rosemary were found to have high antioxidant levels (Moreno et al., 2006).

Antioxidant Properties: An ethanol extract of rosemary demonstrated a protective effect against the oxidative damage to DNA in cells exposed to H2O2 and light-excited methylene blue (Slamenova et al., 2002).

Arthritis: In patients suffering from arthritis, it was found that a blend of lavender, marjoram, eucalyptus, rosemary, peppermint, and carrier oils reduced perceived pain and depression compared to control (Kim et al., 2005).

Bronchitis: In patients with chronic bronchitis, rosemary, basil, fir, and eucalyptus oils were found to demonstrate an antioxidant effect. Lavender was found to promote normalization of lipid levels (Siurin, 1997).

Depression: Many fractions of Rosmarinus officinalis, including its essential oil, were found to have antidepressant-like effects on mice submitted to two stress tests after oral administration of the rosemary plant fractions (Machado et al., 2013).

Hair Loss: Patients with alopecia areata (hair loss) that massaged carrier oils containing a blend of thyme, rosemary, lavender, and cedarwood oils into their scalps were more likely to show improvement when compared to a control group that massaged carrier oils alone into their scalps (Hay et al., 1998).

Memory: Subjects exposed to rosemary aroma were more alert and completed math computations faster than subjects not exposed to the aroma (Diego et al., 1998).

Memory: Volunteers completing a battery of tests were found to be more content when exposed to lavender and rosemary aromas. Rosemary aroma also was found to enhance quality of memory compared to control (Moss et al., 2003).

Stress-related Illness: Rosemary oil demonstrated a relaxant effect on smooth muscle from the trachea of rabbit and guinea pig (Aqel, 1991).

Liver—Cirrhosis: Daily administration of rosemary essential oil displayed a protective effect against chemical-induced liver injury in rats (Ra Kovi et al., 2014).

Bone: Oral intake of rosemary or eucalyptus essential oil (as well as several monoterpenes found in other essential oils) was shown to inhibit bone resorption in rats (Mühlbauer et al., 2003).

Colon--Colitis: Rosemary essential oil was found to be effective in reducing colon tissue lesions and colitis indices when administered orally or intraperitoneally to rats induced with colitis, suggesting that rosemary has anti-colitic activity (Minaiyan et al., 2011).

Sandalwood *Santalum album*

✋🌀💧

Quick Facts

Botanical Family: Santalaceae (sandalwood)

Extraction Method: Steam distilled from wood

Common Primary Uses*: 🌀✋Alzheimer's Disease📖, 🌀✋Aphrodisiac, ✋Back Pain, ✋Cancer, ✋Cartilage Repair, ✋Coma, 🌀Confusion, ✋Exhaustion, 🌀✋Fear, ✋Hair (Dry), 🌀✋Hiccups, 🌀✋Laryngitis, ✋🌀Lou Gehrig's Disease, 🌀Meditation, ✋Moles, ✋🌀Multiple Sclerosis, ✋Rashes, ✋Skin (Dry), ✋Ultraviolet Radiation, ✋Vitiligo, 🌀Yoga

Common Application Methods‡:

✋: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points.

🌀: Diffuse, or inhale the aroma directly.

💧: Take in capsules.

Chemical Constituents: Sesquiterpene Alcohols: α- & β-santalols (<80%); Sesquiterpenes: α- & β-santalenes (<11%); Sesquiterpene Aldehydes: teresantalal (<3%); Carboxylic Acids: nortricycloekasantalic acid (<2%).

Properties: Antidepressant, antiseptic, antitumor📖, aphrodisiac, astringent, calming, sedative, and tonic.

Historical Uses: Sandalwood was traditionally used as an incense during ritual work for enhancing meditation. The Egyptians also used sandalwood for embalming.

French Medicinal Uses: Bronchitis (chronic), diarrhea (obstinate), hemorrhoids, impotence.

Other Possible Uses: Sandalwood is very similar to frankincense in action. It may support the cardiovascular system and relieve symptoms associated with lumbago and the sciatic nerves. It may also be beneficial for acne, regenerating bone cartilage, catarrh, circulation (similar in action to frankincense), coughs, cystitis, depression, hiccups, lymphatic system, menstrual problems, nerves (similar in action to frankincense), nervous tension, increasing oxygen around the pineal and pituitary glands, skin infection and regeneration, and tuberculosis.

Body System(s) Affected: Emotional Balance, Muscles and Bones, Nervous System, Skin.

Aromatic Influence: Calms, harmonizes, and balances the emotions. It may help enhance meditation.

Application: Can be applied neat (with no dilution) when used topically. Apply to reflex points of the feet and/or directly on area of concern; diffuse.

Oral Use As Dietary Supplement: Sandalwood oil in general is approved by the FDA (21CFR172.510) for use as a Food Additive (FA) and Flavoring Agent (FL). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Blend Classification: Modifier and Equalizer

Blends With: Cypress, frankincense, lemon, myrrh, and ylang ylang.

Odor: Type: Base Note (5-20% of the blend); Scent: Soft, woody, sweet, earthy, balsamic, tenacious; Intensity: 3.

📖 Additional Research:

Alzheimer's Disease: A blend of ethanol extracts from 8 herbs, including sandalwood, orally administered to a mice model of Alzheimer's disease was shown to improve amyloid β protein-induced memory impairment, suppress amyloid β protein levels, and diminish plaque deposition in the brain as much as that of donepezil treatment. (Jeon et al., 2011).

Antitumor Properties: Alpha-santalol, derived from sandalwood EO, was found to delay and decrease the incidence and multiplicity of skin tumor (papilloma) development in mice (Dwivedi et al., 2003).

Antitumor Properties: Various concentrations of alpha-santalol (from sandalwood) were tested against skin cancer in mice. All concentrations were found to inhibit skin cancer development (Dwivedi et al., 2005).

Antitumor Properties: Alpha-santalol was found to induce apoptosis in human skin cancer cells (Kaur et al., 2005).

Antiviral: Sandalwood oil was found to possess antiviral activities against herpes simplex virus 1 and 2 in a dose-dependent manner (Benencia et al., 1999).

See Personal Usage Guide section for more details on these primary uses.

●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Spearmint *Mentha spicata*

✋☯💧

Quick Facts

Botanical Family: Labiatae (mint)

Extraction Method: Steam distilled from leaves

Common Primary Uses*: 💧Cooking, 💧Indigestion

Common Application Methods‡:

✋: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to 1 drop carrier oil) for children and for those with sensitive skin when used topically. Use with caution during pregnancy. Avoid use on babies. Apply directly on area of concern or to reflex points.

☯: Diffuse, or inhale the aroma directly.

💧: Take in capsules or in a beverage. Use as a flavoring in cooking.

Chemical Constituents: Ketones (up to 70%): l-carvone (<58%), dihydrocarvone (<10%), menthone (<2%), pulegone; Monoterpenes (<30%): l-limonene (<25%), myrcene (<3%), camphene, α- & β-pinenes, α-phellandrene; Alcohols (<10%): carveol (<3%), linalol, trans-thujanol-4, octanol, borneol; Sesquiterpenes (<5%): β-caryophyllene, β-bourbonene, α-elemene, β-farnesene; Esters: carvyl acetates (<4%); Oxides: 1,8 cineol (<3%); Sesquiterpene Alcohols: α-cadinol, farnesol, elemol; Phenolic Alcohols: menthol.

Properties: Antibacterial, anticatarrhal, antifungal, anti-inflammatory, antiseptic, antispasmodic, hormone-like, insecticidal, and stimulant.

Historical Uses: Spearmint has been used to relieve hiccough, colic, nausea, indigestion, flatulence, headaches, sores, and scabs.

French Medicinal Uses: Bronchitis, candida, cystitis, hypertension.

Other Possible Uses: This oil may help balance and increase metabolism, which may help burn up fats and toxins in the body. It may aid the glandular, nervous, and respiratory systems. It may also help with acne, appetite (stimulates), bad breath, balance, childbirth (promotes easier labor), constipation, depression, diarrhea, digestion, dry skin, eczema, fevers, headaches, intestines (soothes), kidney stones, menstruation (slow, heavy periods), migraines, nausea, sore gums, stomach (relaxes muscles), urine retention, vaginitis, weight (reduces), and bring about a feeling of well-being.

Body System(s) Affected: Digestive System, Emotional Balance.

Aromatic Influence: Its hormone-like activity may help open and release emotional blocks to bring about a feeling of balance. It acts as an antidepressant by relieving mental strain and fatigue, and by lifting one's spirits.

Oral Use As Dietary Supplement: Generally regarded as safe (GRAS) for human consumption by the FDA. Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Use with caution during pregnancy. Not for use on babies.

Blend Classification: Personifier

Blends With: Basil, lavender, peppermint, rosemary.

Odor: Top Note (5–20% of the blend); Scent: Minty, slightly fruity, less bright than peppermint; Intensity: 3.

Additional Research:

Antibacterial Properties: Peppermint and spearmint oil inhibited resistant strains of *Staphylococcus, E. Coli, Salmonella,* and *Helicobacter pylori* (Imai et al., 2001).

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‡See Application section beginning on page 42 for more details on applying essential oils.

✋=Topical, ☯=Aromatic, 💧=Internal

Tangerine *Citrus reticulata*

✋ ☀ ≋ 💧

Quick Facts

Botanical Family: Rutaceae (citrus)

Extraction Method: Cold pressed from rind

Common Primary Uses*: 💧Cooking, ≋✋Calming, ≋✋Uplifting

Common Application Methods‡:

✋: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points. Avoid direct sunlight or UV light for up to 12 hours after using on the skin.

≋: Diffuse, or inhale the aroma directly.

💧: Take in capsules or in a beverage. Use as a flavoring in cooking.

Chemical Constituents: Monoterpenes (up to 95%): d-limonene (<80%), γ-terpinene (<20%), myrcene (<4%), p-cymene, α- & β-phellandrenes, β-ocimene, α- & β-pinenes, terpinolene, cadinene; Tetraterpenes (<10%): β-carotene (<6%), lycopene (<4%); Alcohols: linalol, citronellol; Aldehydes: citral, neral.

Properties: Anticoagulant, anti-inflammatory, laxative, and sedative.

Other Possible Uses: It may help cellulite (dissolve), circulation, constipation, diarrhea, digestive system disorders, fat digestion, dizziness, fear, flatulence, gallbladder, insomnia, intestinal spasms, irritability, limbs (tired and aching), liver problems, decongest the lymphatic system (helps to stimulate draining), obesity, parasites, sadness, the stomach (tonic), stretch marks (smooths when blended with lavender), stress, swelling, and help alleviate water retention (edema).

Body System(s) Affected: Emotional Balance, Immune System, Skin.

Aromatic Influence: Tangerine oil contains esters and aldehydes, which are sedating and calming to the nervous system. When diffused together with marjoram, tangerine can soothe emotions such as grief, anger, and shock.

Oral Use As Dietary Supplement: Tangerine oil is generally regarded as safe (GRAS) for human consumption by the FDA. Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Blend Classification: Modifier and Personifier

Blends With: Basil, bergamot, clary sage, frankincense, geranium, grapefruit, lavender, lemon, orange, and Roman chamomile.

Odor: Top Note (5–20% of the blend); Scent: Fresh, sweet, citrusy; Intensity: 3.

Additional Research:

Pneumonia: In rats with induced pulmonary fibrosis oral treatment of hydrodistilled tangerine essential oil suppressed body weight loss and significantly improved scores of alveolitis and fibrosis of lung tissue. The effects of tangerine essential oil on lung fibrosis were associated with free radical scavenging and antioxidant activity (Zhou et al., 2012).

**See Personal Usage Guide section for more details on these primary uses.* 🔵=Neat, 🟣=Dilute for Children/Sensitive Skin, 🔴=Dilute

Thyme *Thymus vulgaris CT Thymol*

⊖⊘💧

Quick Facts

Botanical Family: Labiatae (mint)

Extraction Method: Steam distilled from leaves, stems, and flowers

Common Primary Uses*: 💧⊖⊘Antioxidant, ⊘⊖Asthma, ⊖⊘Bacterial Infections, ⊖Bites/Stings, 💧⊖⊘Blood Clots, 💧⊖Brain (Aging), ⊘⊖Bronchitis, ⊖⊘Colds (Common), ⊘⊖Croup, ⊖Dermatitis/Eczema, ⊖⊘Fatigue, ⊖Fungal Infections, ⊖Greasy/Oily Hair, ⊖Hair (Fragile), ⊖Hair (Loss), ⊘⊖Mold, ⊖MRSA, 💧⊖Parasites, ⊘⊖Pleurisy, ⊘⊖Pneumonia, ⊖Prostatitis, ⊖Psoriasis, ⊖Radiation Wounds, ⊖Sciatica, ⊘⊖Tuberculosis

Common Application Methods‡:

⊖: Dilute 1:4 (1 drop essential oil to at least 4 drops carrier oil) when used topically. Dilute heavily for children and for those with sensitive skin. Apply directly on area of concern or to reflex points.

⊘: Diffuse, or inhale the aroma directly.

💧: Place 1–2 drops under the tongue, or take in capsules. Use as a flavoring in cooking.

Chemical Constituents: Phenols (up to 60%): thymol (<55%), carvacrol (<10%); Monoterpenes (<54%): p-cymene (<28%), γ-terpinene (<11%), terpinolene (<6%), α-pinene (<6%), myrcene (<3%); Oxides: 1,8 cineol (<15%); Alcohols (<14%): linalol (<8%), borneol (<7%), thujanol, geraniol; Sesquiterpenes: β-caryophyllene (<8%); Carboxylic Acids: rosmaric acid (<2%), triterpenic acids (tr.); Ethers: methyl thymol (tr.), methyl carvacrol (tr.); Ketone: camphor (tr.); Also trace elements of menthone.

Properties: Highly antibacterial, antifungal, antimicrobial, antioxidant, antiviral, antiseptic.

Historical Uses: It was used by the Egyptians for embalming and by the ancient Greeks to fight against infectious illnesses. It has also been used for respiratory problems, digestive complaints, the prevention and treatment of infection, dyspepsia, chronic gastritis, bronchitis, pertussis, asthma, laryngitis, tonsillitis, and enuresis in children.

French Medicinal Uses: Anthrax, asthma, bronchitis, colitis (infectious), cystitis, dermatitis, dyspepsia, fatigue (general), pleurisy, psoriasis, sciatica, tuberculosis, vaginal candida.

Other Possible Uses: This oil is a general tonic for the nerves and stomach. It may also help with circulation, depression, digestion, dysmenorrhea, physical weakness after illness, flu, headaches, immunological functions, insomnia, rheumatism, urinary infections, viruses along the spine, and wounds.

Body System(s) Affected: Immune System, Muscles and Bones.

Aromatic Influence: It helps energize in times of physical weakness and stress. It has also been thought to aid concentration. It is uplifting and helps to relieve depression.

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‡See Application section beginning on page 42 for more details on applying essential oils.

⊖=Topical, ⊘=Aromatic, 💧=Internal

Oral Use As Dietary Supplement: Thyme oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 2 tsp. honey or in 8 oz. of beverage (i.e. soy/rice milk). However, more dilution may be necessary due to this oil's potential for irritating mucus membranes. Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: This type of thyme oil may be somewhat irritating to the mucous membranes and dermal tissues (skin). This type of thyme should be avoided during pregnancy. Use with caution when dealing with high blood pressure.

Blend Classification: Equalizer and Enhancer.

Blends With: Bergamot, melaleuca, oregano, and rosemary.

Odor: Type: Middle Note (50-80% of the blend); Scent: Fresh, medicinal, herbaceous; Intensity: 4.

Additional Research:

Antibacterial Properties: Subjects using a mouthwash containing thymol, menthol, methyl salicylate, and eucalyptol for 6 months did not have oral bacteria that had developed a resistance to the oils (Charles et al., 2000).

Antibacterial Properties: Cinnamon, thyme, and clove essential oils demonstrated an antibacterial effect on several respiratory tract pathogens (Fabio et al., 2007).

Antibacterial Properties: Thyme oil demonstrated a strong antibacterial effect against *Staph* and *E. Coli* bacteria (Mohsenzadeh et al., 2007).

Antifungal Properties: Thyme oil was found to inhibit Candida species by causing lesions in the cell membrane and inhibiting germ tube (an outgrowth that develops when the fungi is preparing to replicate) formation (Pina-Vaz et al., 2004).

Antifungal Properties: Cinnamon, thyme, oregano, and cumin oils inhibited the production of aflatoxin by aspergillus fungus (Tantaoui-Elaraki et al., 1994).

Antimicrobial Properties: Cinnamon bark, lemongrass, and thyme oils were found to have the highest level of activity against common respiratory pathogens among 14 essential oils tested (Inouye et al., 2001).

Antioxidant Properties: Older rats whose diets were supplemented with thyme oil were found have higher levels of the antioxidant enzymes superoxide dismutase and glutathione peroxidase in the heart, liver, and kidneys than did older rats without this supplementation (Youdim et al., 1999).

Antioxidant Properties: Aging rats fed thyme oil or the constituent thymol were found to have higher levels of the antioxidant enzymes superoxide dismutase and glutathione peroxidase in the brain than did aging rats not fed the oil or constituent (Youdim et al., 2000).

Colon—Colitis: Oral administration of thyme and oregano oil at a dose of 0.2% thyme and 0.1% oregano was found to be effective in decreasing the mortality rate, accelerating body weight gain recovery, and significantly reducing the macroscopic damage of colonic tissue of mice with induced colitis (Bukovska et al., 2007).

Dysmenorrhea: A study comparing administration of thyme essential oil, ibuprofen, and placebo treatment revealed that thyme essential oil alleviates dysmenorrhea pain as well as ibuprofen and works significantly better than the placebo treatment (Salmalian et al., 2014).

Anxiety: Carvacrol is a monoterpenic phenol found in thyme and oregano. Oral administration of carvacrol produced antianxiety-like effects in mice (Melo et al., 2010).

Weight—Obesity: After 10 weeks of feeding, the body weight gain, visceral fat-pad weights, and final body weights of mice fed a high-fat diet and carvacrol were significantly lower than that of mice fed a high-fat diet without carvacrol (specifically a 24% decrease in final body weight, a 43% decrease in body weight gain, and a 36% decrease in total visceral fat-pad weight was observed when carvacrol was ingested)(Cho et al., 2012). Interestingly, the food intake during the 10-week feeding period did not differ among the groups and mRNA expressions were different among the two groups (Cho et al., 2012).

Vetiver *Vetiveria zizanioides*

✋🌀💧

Quick Facts

Botanical Family: Gramineae (grasses)

Extraction Method: Steam distilled from roots

Common Primary Uses*: 🌀✋ADD/ADHD, ✋🌀Balance, ✋🌀Termite Repellent, ✋Vitiligo

Common Application Methods‡:

✋: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points. Also excellent in baths or in massage blends. A very small amount of vetiver oil is all that is needed in most applications.

🌀: Diffuse, or inhale the aroma directly.

💧: Take in capsules.

Chemical Constituents: Sesquiterpene Alcohols (up to 42%): isovalencenol (<15%), bicyclovetiverol (<13%), khusenol (<11%), tricyclovetiverol (<4%), vetiverol, zizanol, furfurol; Sesquiterpene Ketones (<22%): α- & β-vetivones (<12%), khusimone (<6%), nootkatone (<5%); Sesquiterpenes (<4%): vitivene, tricyclovetivene, vetivazulene, β- & δ-cadinenes; Sesquiterpene Esters: vetiveryl acetate; Carboxylic Acids: benzoic, palmitic, and vetivenic acids.

Properties: Antiseptic, antispasmodic, calming, grounding, immune stimulant, rubefacient (locally warming), sedative (nervous system), stimulant (circulatory, production of red corpuscles).

Historical Uses: The distillation of vetiver is a painstaking, labor-intensive activity. The roots and rootlets of vetiver have been used in India as a perfume since antiquity.

Other Possible Uses: Vetiver may help acne, anorexia, anxiety, arthritis, breasts (enlarge), cuts, depression (including postpartum), insomnia, muscular rheumatism, nervousness (extreme), skin care (oily, aging, tired, irritated), sprains, stress, and tuberculosis.

Body System(s) Affected: Emotional Balance, Hormonal and Nervous Systems, Skin.

Aromatic Influence: Vetiver has a heavy, smoky, earthy fragrance reminiscent of patchouli with lemon-like undertones. Vetiver has been valuable for relieving stress and helping people recover from emotional traumas and shock. As a natural tranquilizer, it may help induce a restful sleep. It is known to affect the parathyroid gland.

Oral Use As Dietary Supplement: Vetiver oil in general is approved by the FDA (21CFR172.510) for use as a Food Additive (FA) and Flavoring Agent (FL). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Use with caution during pregnancy.

Blends With: Clary sage, lavender, rose, sandalwood, and ylang ylang.

Odor: Type: Base Note (5-20% of the blend); Scent: Heavy, earthy, balsamic, smoky, sweet undertones; Intensity: 5.

Additional Research:

Tuberculosis: The ethanolic extract of vetiver root was found to inhibit both virulent and avirulent strains of *M. tuberculosis*, suggesting that vetiver could be useful in treating tubercular infections (Saikia et al., 2012).

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‡See Application section beginning on page 42 for more details on applying essential oils.

✋=Topical, 🌀=Aromatic, 💧=Internal

White Fir *Abies alba*

✋🌀💧

Quick Facts

Botanical Family: Pinaceae (conifer)

Extraction Method: Steam distillation from needles

Common Primary Uses*: 🌀✋Bronchitis, ✋Bursitis, ✋Cartilage Inflammation, 🌀✋Energizing, ✋Frozen Shoulder, ✋Furniture Polish, ✋Muscle Fatigue, ✋Muscle Pain, ✋Overexercised Muscles, ✋Sprains

Common Application Methods‡:

✋: Can be applied neat (with no dilution) when used topically. Dilute 1:1 (1 drop essential oil to at least 1 drop carrier oil) for children and for those with sensitive skin. Apply directly on area of concern or to reflex points.

🌀: Diffuse, or inhale the aroma directly.

💧: Take in capsules.

Chemical Constituents: Monoterpenes (75-95%): l-limonene (34%), α-pinene (24%), camphene (21%), santene, δ-3-carene; Esters: bornyle acetate (up to 10%).

Properties: Analgesic, antiarthritic, anticatarrhal, antiseptic (pulmonary), expectorant, and stimulant.

Historical Uses: The fir tree is the classic Christmas tree (short with the perfect pyramidal shape and silvery white bark). Though highly regarded for its fragrant scent, the fir tree has been prized through the ages for its medicinal virtues in regards to respiratory complaints, fever, and muscular and rheumatic pain.

French Medicinal Uses: Bronchitis, respiratory congestion, energy.

Other Possible Uses: Fir creates the symbolic effect of an umbrella protecting the earth and bringing energy in from the universe. At night the animals in the wild lie down under the tree for the protection, recharging, and rejuvenation the trees bring them. Fir may be beneficial for reducing aches/pains from colds and the flu, fighting airborne germs/bacteria, arthritis, asthma, supporting the blood, bronchial obstructions, coughs, fevers, oxygenating the cells, rheumatism, sinusitis, and urinary tract infections.

Body System(s) Affected: Respiratory System.

Aromatic Influence: It creates a feeling of grounding, anchoring, and empowerment. It can stimulate the mind while allowing the body to relax.

Application: Can be applied neat (with no dilution) when used topically. Apply to reflex points and/or directly on area of concern; diffuse.

Oral Use As Dietary Supplement: White fir oil in general is approved by the FDA (21CFR172.510) for use as a Food Additive (FA) and Flavoring Agent (FL). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

Safety Data: Can irritate sensitive skin.

Blend Classification: Equalizer.

Blends With: Frankincense and lavender.

Odor: Type: Middle Notes (50-80% of the blend); Scent: Fresh, woody, earthy, sweet; Intensity: 3.

Additional Research:

Bronchitis: In patients with chronic bronchitis, rosemary, basil, fir, and eucalyptus oils were found to demonstrate an antioxidant effect. (Siurin et al., 1997).

**See Personal Usage Guide section for more details on these primary uses.*

●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Wintergreen *Gaultheria procumbens*

✋ ☯

Quick Facts

Botanical Family: Ericaceae (heather)

Extraction Method: Steam distillation from leaves

Common Primary Uses*: ✋Arthritic Pain, ✋Bone Pain, ✋Bone Spurs, ✋Cartilage Injury, ✋Dandruff, ✋Frozen Shoulder, ✋Joint Pain, ✋Muscle Development, ✋Muscle Tone, ✋Pain, ✋Rotator Cuff (Sore)

Common Application Methods‡:

✋: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to 1 drop carrier oil) for children and for those with sensitive skin when using topically. Apply directly on area of concern or to reflex points. Apply topically on location, and use only small amounts (dilute with fractionated coconut oil for application on larger areas).

☯: Diffuse, or inhale the aroma directly.

Chemical Constituents: Phenolic Esters: methyl salicylate (>90%); Carboxylic Acids: salicylic acid.

Properties: Analgesic, anti-inflammatory, antirheumatic, antiseptic, antispasmodic, disinfectant, diuretic, stimulant (bone), and warming.

Historical Uses: Wintergreen oil has a strong, penetrating aroma. The American Indians and early European settlers enjoyed a tea that was flavored with birch bark or wintergreen. According to Julia Lawless, "this has been translated into a preference for 'root beer' flavourings [*sic*]." A synthetic methyl salicylate is now widely used as a flavoring agent, especially in root beer, chewing gum, toothpaste, etc. In fact, the true essential oil is produced in such small quantities (compared to the very extensive uses of the synthetic methyl salicylate) that those desiring to use wintergreen essential oil for therapeutic uses should verify the source of their oil to make sure they have a true oil, not a synthetic one.

French Medicinal Uses: Rheumatism, muscular pain, cramps, arthritis, tendonitis, hypertension, inflammation.

Other Possible Uses: This oil may be beneficial for acne, bladder infection, cystitis, dropsy, eczema, edema, reducing fever, gallstones, gout, infection, reducing discomfort in joints, kidney stones, draining and cleansing the lymphatic system, obesity, osteoporosis, skin diseases, ulcers, and urinary tract disorders. It is known for its ability to alleviate bone pain. It has a cortisone-like action due to the high content of methyl salicylate.

Body System(s) Affected: Muscles and Bones.

Aromatic Influence: It influences, elevates, opens, and increases awareness in sensory system.

Application: Can be applied neat (with no dilution), or dilute 1:1 (1 drop essential oil to 1 drop carrier oil) for children and for those with sensitive skin when using topically. Apply to reflex points and/or directly on area of concern; diffuse. Apply topically on location, and use only small amounts (dilute with fractionated coconut oil for application on larger areas).

Safety Data: Avoid during pregnancy. Not for use by people with epilepsy. Some people are very allergic to methyl salicylate. Test a small area of skin first for allergies.

Blend Classification: Personifier and Enhancer.

Blends With: Basil, bergamot, cypress, geranium, lavender, lemongrass, marjoram, and peppermint.

Additional Research:

Anti-inflammatory Properties: Methyl salicylate (found in wintergreen or birch oils) was found to inhibit leukotriene C4 (a chemical messenger involved in the inflammatory response), while also demonstrating gastroprotective against ethanol-induced gastric injury in rats (Trautmann, et al., 1991).

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‡See Application section beginning on page 42 for more details on applying essential oils. ✋=Topical, ☯=Aromatic, ○=Internal

Ylang Ylang *Cananga odorata*

Quick Facts

Botanical Family: Annonaceae (tropical trees and shrubs—custard-apple)

Extraction Method: Steam distilled from flowers

Common Primary Uses*: Aphrodisiac, Arrhythmia, Calming, Colic, Crying, Diabetes, Exhaustion, Fear, Hair (Loss), High Blood Pressure, Hormonal Balance, Hyperpnea, Libido (Low), Palpitations, Relaxation, Sedative, Stress, Tachycardia, Tension

Common Application Methods‡:

: Can be applied neat (with no dilution) when used topically. Apply directly on area of concern or to reflex points. It may be beneficial when applied over the thymus (to help stimulate the immune system).

: Diffuse, or inhale the aroma directly.

: Take in capsules.

Chemical Constituents: Sesquiterpenes (up to 55%): β-caryophyllene (<22%), germacrene-D (<20%), α-farnesene (<12%), humulene (<5%); Esters (<50%): benzyl acetate & benzoate (<25%), methyl salicylate & benzoate (<17%), farnesyl acetate (<7%), geranyl acetate (<4%), linalyl acetate; Alcohols (<45%): linalol (<40%), geraniol; Ethers: paracresyl methyl ether (<15%); Phenols (<10%): methyl p-cresol (<9%), methyl chavicol (estragole), eugenol, isoeugenol; Oxides: caryophyllene oxide (<7%); Sesquiterpene Alcohols: farnesol.

Properties: Antidepressant, antiseptic, antispasmodic, sedative, and tonic.

Historical Uses: Interestingly enough, the original wild flowers had no fragrance. Through selection and cloning, we have this unique fragrance today. Ylang ylang has been used to cover the beds of newlywed couples on their wedding night, for skin treatments, to soothe insect bites, and in hair preparations to promote thick, shiny, lustrous hair (it is also reported to help control split ends). It has been used to treat colic, constipation, indigestion, stomachaches, and to regulate the heartbeat and respiration.

French Medicinal Uses: Anxiety, arterial hypertension, depression, diabetes, fatigue (mental), frigidity, hair loss, hyperpnea (reduces), insomnia, palpitations, tachycardia.

Other Possible Uses: Ylang ylang may help with rapid breathing, balancing equilibrium, frustration, balancing heart function, impotence, infection, intestinal problems, sex drive problems, shock, and skin problems.

Body System(s) Affected: Emotional Balance, Cardiovascular and Hormonal Systems.

Aromatic Influence: It influences sexual energy and enhances relationships. It may help stimulate the adrenal glands. It is calming and relaxing and may help alleviate anger.

Oral Use As Dietary Supplement: Ylang ylang oil is generally recognized as safe (GRAS) for human consumption by the FDA (21CFR182.20). Dilute one drop oil in 1 tsp. honey or in 4 oz. of beverage (i.e. soy/rice milk). Not for children under 6 years old; use with caution and in greater dilution for children 6 years old and over.

See Personal Usage Guide section for more details on these primary uses.

●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Safety Data: Repeated use can possibly result in contact sensitization.

Blend Classification: Personifier and Modifier.

Blends With: Bergamot, geranium, grapefruit, lemon, marjoram, sandalwood, and vetiver.

Odor: Type: Middle to Base Notes (20-80% of the blend); Scent: Sweet, heavy, narcotic, cloying, tropical floral, with spicy-balsamic undertones; Intensity: 5.

Additional Research:

Calming—Sedative: In healthy control subjects, inhalation of ylang ylang aroma significantly reduced the P300 (an event-related potential interpreted to reflect attentional allocation and working memory) amplitude when compared to inhalation without aroma. These results suggest that ylang ylang produces a relaxing effect on cognition (Watanabe et al., 2013).

Blood Pressure: Inhaled ylang ylang oil was found to decrease blood pressure and pulse rate and to enhance attentiveness and alertness in volunteers compared to an odorless control (Hongratanaworakit et al., 2004).

Blood Pressure: Subjects who had ylang ylang oil applied to their skin had decreased blood pressure, increased skin temperature, and reported feeling more calm and relaxed compared to subjects in a control group (Hongratanaworakit et al., 2006).

Sedative Properties: In human trials, ylang ylang aroma was found to increase calmness (Moss et al., 2008).

Urinary tract: Ylang ylang oil induced relaxation in rat (in vitro) and rabbit (in vivo) bladder smooth muscle, suggesting that ylang ylang may be effective at alleviating an overactive bladder (Kim et al., 2003).

Additional Notes

Essential Oil Blends

Essential Oil Blends

Note: This section contains examples of various essential oil blends that may be available commercially as well as examples of essential oils that each blend may contain.

For further information and research on many of the single oils contained in these blends, see the Single Essential Oils section of this book. Any internal use indicated for these blends is based on the use of pure, therapeutic- grade essential oils only.

Symbols and Colors Used in This Section

✋ Topical

♨ Aromatic

💧 Internal

🧴 Cleaning/Disinfecting

☀ Avoid sunlight for up to 12 hours after use

☀ ☀ Avoid sunlight for up to 72 hours after use

🔵 Neat (can be used without dilution)

🟣 Dilute for children and those with sensitive skin

🔴 Dilute

📖 See Additional Research

Anti-Aging Blend

✋

Quick Facts

This soothing blend may be useful for maintaining skin health and vitality. The oils in this blend have been studied for their abilities to help reduce inflammation, protect the skin from UV radiation, and promote healthy cellular function and proper hydration of the skin.

Common Primary Uses*: ✋Aging, ✋Chapped/Cracked Skin, ✋Dry Skin, ✋Revitalizing, ✋Wrinkles

Application:

✋: Apply directly on areas of concern. Use along with other natural skin care products.

Single Oils in This Blend:

Frankincense: has been studied for its anti-inflammatory properties. Its anti-infectious property also helps protect the skin from harmful microbes. Frankincense is also soothing to the skin and nerves.

Hawaiian Sandalwood: has been found in several animal studies to protect the skin from the harmful effects of ultraviolet (UV-b) radiation. It may also be useful in skin regeneration, and in stopping skin infections.

Lavender: has been studied for its ability to reduce inflammation and allergic reactions in the skin. It has also been used to help the skin recover from burns, blisters, infections, and other injuries, as well as to help reduce conditions related to dry skin.

Myrrh: is known to be soothing to the skin, and is often used to relieve chapped or cracked skin. It has been studied for its anti-inflammatory properties, and is also used to fight many bacterial, fungal, and viral infections of the skin.

Helichrysum: is used to help relieve skin conditions such as eczema and psoriasis. It has antioxidant properties, and is often used for tissue regeneration, pain relief, and healing. It has also been used as a natural sunscreen.

Rose: is often used to help stop the breakdown of collagen in the skin that can lead to a loss of elasticity and wrinkles. It has also been used to help prevent scarring, and to help the body overcome various skin diseases and infections.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Skin.

Safety Data: Use with caution during pregnancy.

Blend for Women

Quick Facts

This exquisite blend of oils works harmoniously with an individual's unique chemistry to create an appealing aroma—without the harmful chemicals found in many of today's perfumes.

Common Primary Uses*: Aphrodisiac, Frigidity, Hormonal Balance

Application:

: Add 5–6 drops to 1 Tbs of fractionated coconut oil for use in massage.

: Diffuse or wear as a perfume.

Single Oils in This Blend:

Patchouli: may help calm and relax, relieving feelings of anxiety.

Bergamot: may help relieve feelings of anxiety, stress, and tension. Its aroma is uplifting and refreshing.

Hawaiian Sandalwood: helps to alleviate feelings of depression. It helps one accept others with an open heart, while diminishing one's own egocentricity.

Rose: is stimulating and elevating to the mind. Its beautiful fragrance is felt to be aphrodisiac-like in nature.

Jasmine: is very uplifting to the emotions. It produces feelings of confidence, energy, and optimism.

Cinnamon Bark: has antidepressant and stimulating properties.

Cistus: is stimulating to the senses of touch, sight, and sound. It may also help quiet the nerves and promote feelings of peace.

Vetiver: is antispasmodic and locally warming. Vetiver has been valuable for relieving stress and helping people recover from emotional traumas and shock.

Ylang Ylang: has calming and sedative properties. It brings a feeling of self-love, confidence, joy, and peace.

Geranium: may help with hormonal balance, liver and kidney functions, and the discharge of toxins from the liver.

Labdanum: is valued for its unique scent and relaxing aroma.

Cocoa Bean Extract: has a pleasurable, soothing aroma.

Vanilla Bean Extract: is calming and may help ease tension.

Carrier Oil in This Blend: Fractionated coconut oil.

Body System(s) Affected: Emotional Balance, Skin.

Aromatic Influence: The subtle aroma of this blend enhances the aura of beauty, femininity, and allure.

Companion Blends: Joyful Blend, Women's Monthly Blend, Detoxification Blend.

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*See Personal Usage Guide section for more details on these primary uses.

Calming Blend

Quick Facts

This relaxing blend contains essential oils that are often used to help calm and soothe feelings of stress, excitement, and anxiety in order to help the body maintain its natural state of health.

Common Primary Uses*: ADD/ADHD, Addictions, Anger, Anxiety, Calming, Hyperactivity, Insomnia, Itching, Mental Fatigue, Mood Swings, Sedative, Sleep, Stress, Teeth Grinding, Tension

Application:

: Apply under nose and to back, feet, and back of neck. Put in bathwater. Apply to navel, feet, or back of neck for insomnia.

: Wear as perfume or cologne. Diffuse or inhale the aroma directly.

Single Oils in This Blend:

Lavender: has calming and sedative properties. It may help lift feelings of depression and anxiety.

Sweet Marjoram: may help relax and calm the body and mind and also help promote peace.

Roman Chamomile: is calming and relaxing. It may help relieve muscle tension as well as calm nerves and soothe the emotions.

Ylang Ylang: has calming and sedative properties. It brings a feeling of self-love, confidence, joy, and peace.

Hawaiian Sandalwood: is calming and sedative. It helps balance and harmonize the emotions and may help ease nervous tension.

Vanilla Bean Extract: is calming and may help ease tension.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Nervous System and to Emotional Balance.

Aromatic Influence: This blend of oils is perfect for calming the nerves or emotions at the end of a long day or in times of stress. As the body is able to relax, more blood is able to circulate to the brain.

Companion Oils: Lavender.

=Topical, =Aromatic, =Internal

Cellular Complex

✋🌀💧

Quick Facts

The oils in this blend have been chosen for their abilities to provide antioxidant support for the cells and to promote a healthy cellular life cycle.

Common Primary Uses*: ○Aging, ○Antioxidant, ○Atherosclerosis, ○Cancer, ○Cellular Health, ○Tumors

Application:

✋: Dilute as needed, and apply on area of concern.

🌀: Diffuse or inhale the aroma directly.

💧: Adults can take up to eight drops internally, twice a day with food.

Single Oils in This Blend:

Frankincense: has anti-inflammatory and immune-stimulant properties. It is often used to help support the body's response to cancer and other cellular diseases.

Orange: contains high levels of d-limonene, which has demonstrated potential in inhibiting cancer tumor growth(Kato et al., 1992) and has also been shown to reduce cholesterol levels in animal studies (Sorentino et al., 2005).

Lemongrass: has anti-inflammatory and antiseptic properties. Constituents found in this oil have demonstrated an ability to inhibit cancer cell growth (Carnesecchi et al., 2001) and to induce apoptosis (cellular death) in human leukemia cells (Kumar et al., 2008).

Thyme: has strong antioxidant and antiseptic properties. It is often used to help support the brain as it ages.

Summer Savory *(Satureja hortensis)*: has demonstrated antifungal (Sabzghabaee et al., 2012) and anti-inflammatory (Hajhashemi et al., 2012) properties. Studies have also demonstrated the ability of summer savory oil to decrease lipid peroxidation associated with aging in mice (Misharina et al., 2011) and to reduce DNA damage caused by oxidative stress in rat lymphocytes(Mosaffa et al., 2006). Additionally, a methanol extract of Satureja hortensis was found to reduce blood platelet adhesion (a risk factor in cardiovascular disease) in vitro (Yazdanparast et al., 2008).

Clove: has high antioxidant properties and is anti-infectious and helps support healthy liver and thyroid function.

Niaouli (*Melaleuca quinquenervia*): has powerful antifungal properties and is anti-inflammatory. It is often used to help protect against radiation and also to help regenerate damaged tissue.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Cardiovascular System, Immune System, Nervous System, Muscles and Bones, and Skin and Hair.

See Personal Usage Guide section for more details on these primary uses

● =Neat, ● =Dilute for Children/Sensitive Skin, ● =Dilute

Cleansing Blend

✋🌀

Quick Facts

Several of the oils contained in this blend are well-known and are often used to help remove odors from the air. Others have been studied for their powerful abilities to disinfect and to remove harmful microorganisms.

Common Primary Uses*: ✋Abscess (Tooth), 🌀✋Addictions, 🌀Airborne Bacteria, 🌀Air Pollution, 🌀Allergies, 🌀✋Antibacterial, ✋Boils, ✋Bug Bites, ✋🌀Cleansing, ✋🌀Deodorant, ✋🌀Deodorizing, ✋🌀Disinfectant, ✋Ear Infection, ✋Infected Burns, ✋Laundry, ✋🌀Mice (Repel), ✋Mildew, ✋Skin Ulcer, ✋Stings, ✋Urinary Infection

Application:

✋: Apply to reflex points on the body, ears, feet, and temples. Apply topically for infections and cleansing.

🌀: Put on cotton balls and place in air vents for an insect repellent at home or at work. Can also be added to paint to help reduce fumes. Diffuse or inhale the aroma directly.

Single Oils in This Blend:

Lemon: is antiseptic and antiviral. It may help as an air disinfectant and as a water purifier. Its uplifting aroma promotes healing and purification.

Lime: has antibacterial, antiviral, and antiseptic properties.

Siberian Fir: is highly valued for its fine fragrance, air purifying action, and ability to protect against environmental threats.

White (Austrian) Fir: helps purify the air and protect against environmental threats. It may help relieve respiratory conditions.

Pine: has antimicrobial and antiseptic properties. It may also help with cuts and with infections of the urinary system.

Citronella: has antiseptic, antibacterial, antispasmodic, anti-inflammatory, deodorizing, insecticidal, purifying, and sanitizing properties.

Melaleuca: may help balance heart function and act as a cleanser and detoxifier of the blood. It has antibacterial, antifungal, anti-infectious, antiseptic, antiviral, and immune-stimulant properties.

Cilantro: is relaxing, uplifting, refreshing, and may help memory. It may help with burns, bites, and stings. Cilantro and coriander are distilled from the same plant—cilantro oil, however, is distilled from the leaves of the plant, while coriander oil is distilled from the seeds of the plant.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Digestive System, to Emotional Balance, and to the Skin.

Aromatic Influence: This blend is great for air purification when diffused. When illness is in the home, diffuse for one hour and then wait for two hours. Repeat this pattern as desired. Diffuse in the office, barn, or garbage areas; or put it on a cotton ball, and place it in an air vent to freshen the car.

Application: Apply to reflex points on the body, ears, feet, and temples. Apply topically for infections and cleansing. Put on cotton balls and place in air vents for an insect repellent at home or at work. Can also be added to paint to help reduce fumes.

Safety Data: Repeated use can possibly result in contact sensitization. Can be irritating to sensitive skin.

Companion Blends: Invigorating Blend, Protective Blend.

Detoxification Blend

✋ ☀ ♨ 💧

Quick Facts

This blend contains oils that have been studied for their abilities to help support organ cleansing and healthy tissue function.

Common Primary Uses*: 💧✋Endocrine Support, 💧✋Hormonal Balance

Application:

✋: Massage on bottoms of feet.

♨: Diffuse or inhale the aroma directly.

💧: Take 3–5 drops of the Detoxification Blend in capsules either alone or with a Detoxification Complex supplement capsule up to once a day.

Single Oils in This Blend:

Rosemary: has demonstrated strong antioxidant effects and has been used to help mitigate the effects of endocrine disorders such as diabetes and stress-related chronic fatigue.

Cilantro: has been studied for its ability to help support the liver against toxins.

Juniper Berry: is often used for its cleansing and antioxidant properties.

Tangerine: is often used for its antioxidant properties and its ability to support the digestive system.

Geranium: may help with hormonal balance, liver and kidney function, pancreas support, and the discharge of toxins from the liver.

Body System(s) Affected: Hormonal System, Emotional Balance, Skin and Hair.

Safety Data: Because this blend contains citrus oils, it may increase skin photosensitivity. It is best to avoid sunlight or UV rays for 12 hours after topical application. Repeated use can result in contact sensitization. Consult your doctor before using if you are pregnant, epileptic, or have a medical condition.

Companion Blends: Blend for Women.

**See Personal Usage Guide section for more details on these primary uses*

🔵=Neat, 🟣=Dilute for Children/Sensitive Skin, 🔴=Dilute

Digestive Blend

✋🌀💧

Quick Facts

This blend may be useful for improving digestive function. The oils in this blend have been studied for their abilities in balancing the digestive system and in soothing many of that system's ailments.

Common Primary Uses*: ✋🌀Bloating, ✋💧Colitis, 💧✋Constipation, 💧✋Cramps (Abdominal), 💧✋Crohn's Disease, 💧✋Diarrhea, 💧Food Poisoning, 💧✋Gastritis, ✋💧Heartburn, ✋💧Nausea, 💧✋Parasites, ✋Sinusitis

Application:

✋: May be applied to reflex points on the feet and on the ankles. It may also be applied topically over the stomach, as a compress on the abdomen, and at the bottom of the throat (for gagging). Apply to animal paws for parasites.

🌀: Diffuse or inhale the aroma directly.

💧: As a dietary supplement, dilute one drop in 4 oz. of water or soy/rice milk, and sip slowly. May also be used in a retention enema for ridding the colon of parasites and for combating digestive candida.

Single Oils in This Blend:

Ginger: is warming, uplifting, and empowering. Emotionally, it may help influence physical energy, love, and courage. Because of its calming influence on the digestive system, it may help reduce feelings of nausea and motion sickness.

Peppermint: is an anti-inflammatory to the prostate and nerves. It is soothing, cooling, and dilating to the system. It may also be beneficial for counteracting food poisoning, vomiting, diarrhea, constipation, flatulence, halitosis, colic, nausea, and motion sickness.

Tarragon: may help to reduce anorexia, dyspepsia, flatulence, intestinal spasms, nervous and sluggish digestion, and genital urinary tract infection.

Fennel: may help improve digestive function by supporting the liver. It may also help balance the hormones.

Caraway: is antiparasitic and antispasmodic. It may also help with indigestion, gas, and colic.

Coriander: is antispasmodic and has anti-inflammatory properties. It may also help with indigestion, flatulence, diarrhea, and other spasms of the digestive tract.

Anise: may help calm and strengthen the digestive system.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Digestive System.

Safety Data: Use with caution during pregnancy (only a drop massaged on the outer ear for morning sickness). Not for use by people with epilepsy.

Companion Oils: Peppermint.

Focus Blend

✋🌀

Quick Facts

This blend contains oils that have been studied and used traditionally for their abilities to promote calmness, focus, and a balanced state of mind. Many of the oils in this blend contain high levels of sesquiterpenes, which have demonstrated an ability to pass the blood-brain barrier to reach the cells of the brain.

Common Primary Uses*: ✋🌀ADD/ADHD, ✋🌀Anxiety, ✋🌀Calming, ✋Clarity, ✋🌀Concentration, ✋🌀Focus, ✋🌀Hyperactivity, ✋🌀Stress

Application:

✋: Apply on back of neck and on bottoms of the feet.

🌀: Diffuse or inhale the aroma directly.

Single Oils in This Blend:

Amyris (West Indian Sandalwood): contains a high level of sesquiterpenes and may help promote calmness and relief from stress and tension.

Patchouli: has a sedating, calming, and relaxing influence and may be useful in relieving anxiety and depression. It also has a high level of sesquiterpenes.

Frankincense: has antidepressant and sedating properties. It is often used to help enhance memory, reduce mental fatigue, focus energy, and aid concentration.

Lime: has a refreshing aroma that is often used to help overcome exhaustion, depression, and listlessness. It may also be beneficial for anxiety.

Ylang Ylang: has demonstrated sedative properties and is often used to help aid with anxiety and depression.

Hawaiian Sandalwood: is often used as an aid in focus and meditation. It also has calming and sedative properties.

Roman Chamomile: has a calming and relaxing influence. It is often used to help safely and effectively reduce irritability and nervousness in children, especially hyperactive children.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to Emotional Balance, the Hormonal System, and the Nervous System.

Safety Data: Repeated use may result in contact sensitization.

**See Personal Usage Guide section for more details on these primary uses*

●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Grounding Blend

✋◎

Quick Facts

The oils in this blend may help establish a feeling of calmness, peace, and relaxation. It may aid in harmonizing the various physiological systems of the body and promote tranquility and a sense of balance.

Common Primary Uses*: ◎✋Anxiety, ✋Back Pain, ✋◎Balance, ◎✋Brain Integration, ✋Bursitis, ✋Coma, ◎Confusion, ✋Convulsions, ◎✋Depression, ✋Diabetic Sores, ◎✋Energy, ◎✋Fear, ✋Grand Mal Seizure, ✋Grief/Sorrow, ✋Herniated Discs, ✋Hot Flashes, ◎✋Hyperactivity, ✋Jet Lag, ✋Lou Gehrig's Disease, ✋Lupus, ◎✋Metabolism (Balance), ◎Mood Swings, ✋◎Parkinson's Disease, ✋Seizure

Application:

✋: This blend works best on the bottoms of the feet. Put six drops on bottoms of feet. Put on heart, wrists, and solar plexus from neck to thymus. To balance left and right brain, put on left fingers, and rub on right temple; or put on right fingers, and rub on left temple; or cross arms, and rub reflex points on bottoms of feet. To relieve pain along the spine, apply to reflex points on feet and on spine.

◎: Wear as perfume or cologne. Diffuse or inhale the aroma directly.

Single Oils in This Blend:

Spruce: grounds the body, creating the balance and the opening necessary to receive and to give. It may help dilate the bronchial tract to improve the oxygen exchange. It may also help a person to release emotional blocks.

Ho Wood: is soothing to the skin, appeasing to the mind, relaxing to the body, and creates a feeling of peace and gentleness.

Blue Tansy: may help cleanse the liver and calm the lymphatic system to help rid oneself of anger and promote a feeling of self-control.

Frankincense: contains sesquiterpenes, which may help oxygenate the pineal and pituitary glands. As one of the ingredients for the holy incense, frankincense was used anciently to help enhance one's communication with the Creator. It may help promote a positive attitude.

German (Blue) Chamomile: is soothing to the muscles and joints. It may help ease nervous tension and eliminate emotional tension.

Carrier Oil in This Blend: Fractionated coconut oil.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to Muscles and Bones, Skin, the Nervous System, and Emotional Balance.

Aromatic Influence: This blend of oils may help balance the body and mind. Diffuse wherever and whenever possible.

Headache Relief Blend

✋🌀

Quick Facts

The oils in this blend are known to help relieve the pain and tension associated with headaches.

Common Primary Uses*: ✋🌀Headaches, ✋🌀Migraines, ✋Muscle Tension, ✋🌀Tension Headaches

Application:

✋: Use a roll-on applicator to apply this blend to the temples, the forehead, the back of the neck, and to the reflex areas on the hands and feet.

🌀: Inhale the aroma directly.

Single Oils in This Blend

Wintergreen: has pain-relieving, anti-inflammatory, and antispasmodic properties. It may help with muscle and bone pain.

Lavender: may help relieve pain and inflammation. It is an antispasmodic and may help with migraine headaches and tension.

Peppermint: has pain relieving, anti-inflammatory, and antispasmodic properties. It is often used to help relieve headaches and has a cooling effect on the skin.

Frankincense: has sedative properties and may help reduce inflammation, headaches, and high blood pressure.

Cilantro: has anti-inflammatory and analgesic properties. It is a circulatory stimulant and helps alleviate aches, pains, and stiffness.

Roman Chamomile: has calming properties and is anti-inflammatory and antispasmodic. It also helps soothe the nerves.

Marjoram: is often used to soothe muscle aches and pains. It also has sedative properties and may help increase blood flow.

Basil: is often used to relieve muscle aches and pains and deep muscle spasms.

Rosemary: is often used to help relieve headaches. It may also help relieve sinus congestion and infections that can contribute to sinus headaches.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Nervous System and to the Muscles and Bones.

Safety Data: Repeated use can result in extreme contact sensitization. Can cause extreme skin irritation. Use with caution during pregnancy.

See Personal Usage Guide section for more details on these primary uses.

●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Invigorating Blend

Quick Facts

This uniquely exhilarating blend brings together all of the uplifting and stress-reducing benefits of citrus essential oils in a sweetly satisfying way. In addition to their elevating properties, many of the citrus oils in this blend have been studied for their ability to cleanse and to disinfect.

Common Primary Uses*: Calming, Depression, Eating Disorders, Mastitis, Sedative

Application:

: May be applied on the ears, heart, and wrists or may be worn as a perfume or cologne. It may be diluted with fractionated coconut oil for a full-body massage. It may also be added to water for a relaxing bath.

: Diffuse or inhale the aroma directly.

: Mixed with water, this blend can also be used to disinfect countertops and other surfaces.

Single Oils in This Blend:

Orange: brings peace and happiness to the mind and body and joy to the heart, which feelings provide emotional support to help one overcome depression.

Lemon: promotes health, healing, physical energy, and purification. Its fragrance is invigorating, enhancing, and warming.

Grapefruit: is an antidepressant, an antiseptic, and a diuretic. It is balancing and uplifting to the mind and may help to relieve anxiety.

Mandarin: is appeasing, gentle, and promotes happiness. It is also refreshing, uplifting, and revitalizing. Because of its sedative properties, it is very good for combating stress and irritability.

Bergamot: has uplifting properties. It may also help with depression and agitation.

Tangerine: contains esters and aldehydes, which are sedating and calming to the nervous system. It is also a diuretic and a decongestant of the lymphatic system.

Clementine: is soothing and sedating and may help ease tension.

Vanilla Bean Extract: is calming and may help ease tension.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Immune System and to Emotional Balance.

Aromatic Influence: This blend of oils may create an enjoyable aromatic fragrance in the home or workplace. Simple diffusion can be achieved by applying a few drops of this blend on a cotton ball and placing it on a desk at work or placing it in an air vent.

Safety Data: May cause skin irritation. Avoid exposure to direct sunlight for up to 12 hours after use.

Joyful Blend

✋☀🌀

Quick Facts

This uplifting combination of essential oils creates an energetic aroma that can help stimulate the body's chemistry when a person is feeling lethargic or sad.

Common Primary Uses*: ✋Abuse, 🌀Anxiety, ✋Cushing's Syndrome, 🌀✋Depression, 🌀✋Energy, 🌀✋Grief/Sorrow, ✋🌀Lupus, ✋Poison Oak/Ivy, 🌀✋Postpartum Depression, 🌀Shock, 🌀✋Stimulating, 🌀✋Stress, 🌀Uplifting, 🌀Weight Loss

Application:

✋: Rub over heart, ears, neck, thymus, temples, across brow, and on wrists. Apply on heart reflex points. Put in bathwater. Use as compress; dilute with fractionated coconut oil for a full-body massage. Place on areas of poor circulation.

🌀: Wear as perfume or cologne, especially over the heart. Put two drops on a wet cloth, and put the cloth in the dryer with washed laundry for great-smelling clothes. Diffuse or inhale the aroma directly.

Single Oils in This Blend:

Lavandin: may help dispel feelings of depression or anxiety.

Lavender: is a universal oil that is traditionally used to balance the body, relieve depression, and increase relaxation.

Tangerine: is sedative in nature. It may help calm and relieve feelings of stress while enhancing energy.

Elemi: is antidepressant and sedative. It may help relieve stress and is calming to the nerves.

Lemon Myrtle: has a strong lemony aroma that is elevating and refreshing.

Melissa: may help with depression and anxiety and has an uplifting lemony aroma.

Ylang Ylang: is calming and relaxing. It brings a feeling of self-love, confidence, joy, and peace.

Osmanthus: is one of the 10 famous traditional flowers of China. The blossoms are highly aromatic and are used in the world's rarest and most expensive perfumes. Its heady, uplifting fragrance (a very rich, sweet floral fruit bouquet) has been known to make everyone smile.

Hawaiian Sandalwood: is calming and sedative. It helps balance and harmonize the emotions and may help ease nervous tension.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to Emotional Balance.

Aromatic Influence: The fragrance of this blend of oils is uplifting, refreshing, and helps promote feelings of self-worth. It can help dispel feelings of depression, sorrow, and anxiety.

Safety Data: Avoid exposure to direct sunlight for up to 12 hours after use.

**See Personal Usage Guide section for more details on these primary uses.*

⚫=Neat, 🟣=Dilute for Children/Sensitive Skin, 🔴=Dilute

Massage Blend

Quick Facts

The oils in this blend were selected specifically for their abilities to relax, calm, and relieve the tension of muscles, to soothe irritated tissue, and to increase circulation. The massage blend may help promote an anti-inflammatory effect on soft tissue and enhance all aspects of massage.

Common Primary Uses*: Anxiety, Massage, Muscle Aches/Pain, Muscular Dystrophy, Relaxation, Tension.

Application:

: Best if applied on location for all muscles. It may also be applied over the heart or diluted with fractionated coconut oil for a full body massage. It is also beneficial when placed in bathwater.

Single Oils in This Blend:

Basil: has anti-inflammatory and antispasmodic properties. It is relaxing to spastic muscles, including those that contribute to headaches and migraines.

Grapefruit: has calming and sedative properties. It may help with fatigue and stress.

Cypress: is anti-infectious, mucolytic, antiseptic, lymphatic decongestive, refreshing, and relaxing. It may help improve lung circulation as well as help relieve other respiratory problems. It may also help relieve muscle cramps and improve overall circulation.

Marjoram: is an antispasmodic and is relaxing, calming, and appeasing to the muscles that constrict and sometimes contribute to headaches. It may be useful for muscle spasms, sprains, bruises, migraines, and sore muscles.

Lavender: is an oil that has traditionally been known to balance the body and to work wherever there is a need. It has antispasmodic and analgesic properties. It may help with sprains, sore muscles, headaches, and general healing.

Peppermint: is an anti-inflammatory to the nerves and helps reduce inflammation in damaged tissue. It is soothing, cooling, and dilating to the systems of the body. It may help to reduce fevers, candida, nausea, vomiting, and also help to strengthen the respiratory system.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Respiratory System, Cardiovascular System, and to Muscles and Bones.

Companion Oils: Basil, helichrysum, marjoram, and wintergreen.

=Topical, = Aromatic, =Internal

Metabolic Blend

✋☀🌀💧

Quick Facts

This blend is designed to help control hunger and to help limit excessive calorie intake. The oils in this blend are calming to the stomach and work to improve emotional well-being. This blend is most effective when combined with exercise and healthy eating.

Common Primary Uses*: 💧🌀Appetite Suppressant, 💧✋Cellulite, 💧🌀Obesity, 💧🌀Overeating, 💧🌀Weight Loss

Application:

✋: Apply on wrists, bottoms of the feet, or on area of concern.

🌀: Apply to palms of hands: cup hands over nose and mouth, and breathe deeply. Diffuse into the air.

💧: Add 8 drops of Metabolic Blend to 16 oz. of water, and drink throughout the day between meals.

Single Oils in This Blend:

Grapefruit: is balancing and uplifting to the mind. It has been used medicinally by the French to help with cellulite and digestion.

Lemon: is invigorating, enhancing, and warming. It promotes health, healing, and energy.

Peppermint: is purifying and stimulating to the human mind. It may also help soothe digestive difficulties.

Ginger: may help increase physical energy and promote healthy digestion.

Cinnamon: enhances the action of other oils. It may improve circulation, digestion, and energy levels.

Body System(s) Affected: Emotional Balance, Digestive System.

Aromatic Influence: This blend of oils is calming to the stomach and uplifting to the mind.

Safety Data: Because this blend contains citrus oils, it may increase skin photosensitivity. It is best to avoid sunlight or UV rays for 12 hours after topical application. Do not apply directly in eyes, ears, or nose. Consult your doctor before using if you are pregnant or have a medical condition.

Companion Oils: Grapefruit, orange, lemongrass, thyme, lavender, Joyful Blend, rosemary, fennel.

See Personal Usage Guide section for more details on these primary uses. ●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Protective Blend

🖐🌀💧

Quick Facts

The oils in this blend have been studied for their strong abilities to kill harmful bacteria, mold, and viruses. This blend can be diffused into the air or be used to clean and purify household surfaces.

Common Primary Uses*: 🖐Abscess (Oral), 🌀Air Pollution, 🖐💧🌀Antibacterial, 🖐🌀Antifungal, 🖐🌀Antiviral, 💧🖐Bladder Infection, 🖐Candida, 🖐🌀Chronic Fatigue, 🖐🌀Cleansing, 🖐Cold Sores, 🌀🖐Colds, 🌀🖐Coughs, 🖐🌀Flu, 🖐Gum Disease, 🖐Halitosis, 🖐💧Hypoglycemia, 🖐🌀💧Infection, 🖐Lupus, 🌀🖐Mold, 🖐🌀Mono, 🖐MRSA, 🌀🖐Plague, 🌀🖐Pneumonia, 🖐Scabies, 💧🖐🌀Sore Throat, 💧🖐Staph Infection, 🖐Warts

Application:

🖐: Massage throat, stomach, intestines, and bottoms of feet. Dilute one drop in 15 drops of fractionated coconut oil: massage the thymus to stimulate the immune system, and massage under the arms to stimulate the lymphatic system. It is best applied to the bottoms of the feet, as it may be caustic to the skin. Dilute with fractionated coconut oil when used on sensitive/young skin.

🌀: Diffuse or inhale the aroma directly.

Single Oils in This Blend:

Orange: is antibacterial, antifungal, antidepressant, and antiseptic. It is a powerful disinfectant and very effective against colds and flu.

Clove Bud: is antibacterial, antifungal, anti-infectious, antiparasitic, a strong antiseptic, antiviral, and an immune stimulant. It may influence healing and help create a feeling of protection and courage.

Cinnamon Bark: has very specific purposes: (1) it is a powerful purifier, (2) it is a powerful oxygenator, and (3) it enhances the action and the activity of other oils. It may have a stimulating and toning effect on the whole body and particularly on the circulatory system. It is antibacterial, antifungal, anti-infectious, anti-inflammatory, antimicrobial, antiparasitic, antiseptic, antispasmodic, antiviral, astringent, immune stimulant, sexual stimulant, and warming.

***Eucalyptus radiata*:** may have a profound antiviral effect upon the respiratory system. It also has strong antibacterial, anticatarrhal, and antiseptic properties.

Rosemary: may help balance heart function, energize the solar plexus, and reduce mental fatigue. It may improve circulation and help stimulate the nerves. It is antiseptic and anti-infectious.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Immune System.

Aromatic Influence: Diffuse this blend of oils periodically for 20–25 minutes at a time to help protect the body against the onset of flu, colds, and viruses.

Safety Data: Repeated use can result in extreme contact sensitization. Can cause extreme skin irritation. Use with caution during pregnancy.

Repellent Blend

Quick Facts

This blend combines essential oils that have been proven to effectively repel biting insects.

Common Primary Uses*: Bug/Insect Repellent

Application:

: Apply a small amount of this oil on the skin.

: Diffuse into the air, or place a few drops on ribbons and strings, and place near air vents, windows, or openings where bugs might come in.

Single Oils in This Blend:

Lemon Eucalyptus: is insecticidal. It may also help repel cockroaches, silverfish, and other insects.

Citronella: is insect repellent and insecticidal.

Lemongrass: is a strong insect repellent and is insecticidal to many insects.

***Skimmia laureola*: may help** expel parasitic worms and insects.

Catnip: repels flies and other insects.

Amyris Bark: contains sesquiterpenes with significant insect repellency and toxicity activity.

African Sandalwood: is uplifting and helps repel insects.

Cabreuva Balsam: helps soothe the skin irritation and wounds.

Wild Orange: provides an invigorating citrus scent.

White Fir: has analgesic and antiseptic properties.

Cedarwood: is insecticidal against adult mosquitoes and other household insects.

Eucalyptus: is insecticidal against cockroaches, carpenter ants, and head lice.

Hawaiian Sandalwood: was used historically to help repel insects.

Genet: has an uplifting floral aroma.

Rose: is effective at repelling indoor insects.

Carrier Oil in This Blend: Fractionated coconut oil.

Aromatic Influence: It is highly repellent to many flying and crawling insects and bugs.

**See Personal Usage Guide section for more details on these primary uses.*

● =Neat, ● =Dilute for Children/Sensitive Skin, ● =Dilute

Respiratory Blend

✋🌀💧

Quick Facts

Many of the oils in this blend have been studied for their abilities to open and soothe the tissues of the respiratory system and also for their abilities to combat airborne bacteria and viruses that could be harmful to the system.

Common Primary Uses*: 🌀Antiviral, ✋Anxiety, 🌀✋Asthma, 🌀✋Bronchitis, ✋🌀Congestion, 🌀✋Cough, 🌀✋Emphysema, 🌀✋Influenza, ✋🌀Mono, ✋🌀Nasal Polyp, 🌀✋Pneumonia, 🌀✋Respiratory System, 🌀✋Sinusitis, 🌀✋Tuberculosis

Application:

✋: May be applied on the chest, the back, or the bottoms of the feet.

🌀: Diffuse into the air. Apply to palms of hands: cup hands over nose and mouth, and breathe deeply, or inhale the aroma of the oil directly.

Single Oils in This Blend:

Laurel Leaf (Bay): has antiseptic and antifungal properties. It may also help with asthma, bronchitis, and viral infections.

Peppermint: is antiseptic, antispasmodic, and anti-inflammatory. It is soothing, cooling, and dilating to the system.

***Eucalyptus radiata*:** may have a profound antiviral effect upon the respiratory system. It may also help reduce inflammation of the nasal mucous membrane.

***Melaleuca alternifolia*:** has antibacterial, antifungal, antiviral, and expectorant properties. It may also help with bronchitis, coughs, and inflammation.

Lemon: promotes health, healing, physical energy, and purification. Its fragrance is invigorating, enhancing, and warming. It is an antiseptic and is great for the respiratory system.

Ravensara: is a powerful antiviral, antibacterial, antifungal, and anti-infectious oil. It may help dilate, open, and strengthen the respiratory system. As a cross between clove and nutmeg, it may also help support the adrenal glands.

Cardamom: has antiseptic and anti-inflammatory properties. It may also help with congestion and other respiratory problems.

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Respiratory System and to the Skin.

Aromatic Influence: This blend of oils is excellent for opening the respiratory system when the blend is diffused or inhaled and is perfect for nighttime diffusion, allowing for restful sleep.

Application: Apply topically to the chest, the back, or the bottoms of the feet. Diffuse.

Safety Data: Can be irritating to sensitive skin. Dilute for young or sensitive skin.

Companion Oils: Run hot steaming water in sink; put Respiratory Blend and wintergreen in water; put towel over head; and inhale to open sinuses that have been blocked by flu, colds, or pneumonia. Also try Protective Blend.

Soothing Blend

Quick Facts

This blend contains oils that are well-known and are frequently studied for their abilities to soothe inflammation, alleviate pain, and reduce soreness.

Common Primary Uses*: ✋Arthritis, ✋Back Pain, ✋Bone Pain, ✋Bruises, ✋Bursitis, ✋Fibromyalgia, ✋Inflammation, ✋Joint Pain, ✋Muscle Aches/ Pain, ✋Muscle Tension, ✋Pain, ✋Tension Headaches, ✋Whiplash

Application:

✋: Apply as a compress on spine and on reflex points on feet. Apply on location for muscle cramps, bruises, or any other pain.

Single Oils in This Blend:

Wintergreen: contains 99% methyl salicylate, which gives it cortisone-like properties. It may be beneficial for arthritis, rheumatism, tendinitis, and any other discomfort that is related to the inflammation of bones, muscles, and joints.

Camphor: is analgesic (pain-relieving) and anti-inflammatory. It may be beneficial for arthritis, rheumatism, muscle aches and pains, sprains, and bruises.

Peppermint: is anti-inflammatory to the prostate and to damaged tissues. It has a soothing and cooling effect that may help with arthritis and rheumatism.

Blue Tansy: is analgesic and anti-inflammatory. It may also help with low blood pressure, arthritis, and rheumatism.

German (Blue) Chamomile: is antioxidant, anti-inflammatory, and analgesic. It may also help relieve congestion and arthritis.

Helichrysum: may help cleanse the blood and improve circulatory functions. It is anticatarrhal in structure and nature. As a powerful anti-inflammatory, it may even help reduce inflammation in the meninges of the brain. On a spiritual level, it may help one let go of angry feelings that prevent one from forgiving and moving forward.

Osmanthus: is one of the 10 famous traditional flowers of China. The blossoms are highly aromatic and are used in the world's rarest and most expensive perfumes. It is used in Chinese medicine to "reduce phlegm and remove blood stasis."

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Nervous System and to Muscles and Bones.

Safety Data: Repeated use may possibly result in contact sensitization. Use with caution during pregnancy.

Companion Oils: Add frankincense (to enhance) or wintergreen (for bone pain).

See Personal Usage Guide section for more details on these primary uses.

●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Topical Blend

Quick Facts

This new formulation of the Topical Blend contains oils that have been selected for their unique abilities to help protect the skin from bacterial and fungal proliferation and from other skin problems such as eczema and acne. This blend can be applied topically to infected areas.

Common Primary Uses*: ✋Acne, ✋Callouses, ✋Dermatitis, ✋Impetigo, ✋Oily Skin

Application:

✋: Apply on location daily as needed.

Single Oils in This Blend:

Ho Wood: is known for its antiseptic properties and is often used to help clear infections and to support the revitalization of skin tissue.

Melaleuca: is one of the most studied antibacterial and antifungal oils. Melaleuca also has anti-inflammatory properties and can help support the skin in the recovery process after injuries.

Litsea Berry: has antiseptic and astringent properties and has been used for oily skin and acne.

***Eucalyptus globulus*:** is often used for inflammation and skin infections and sores. It is used medicinally in France to treat candida and other fungal infections and has also demonstrated strong antibacterial properties.

Geranium: has antibacterial and anti-inflammatory properties and is often used to help alleviate the effects of acne and eczema. It may also help balance sebum levels in the skin.

Other Oils:

Black Cumin Seed Oil: has been used since ancient times for a myriad of health concerns. In addition to its antioxidant and anti-inflammatory properties, black cumin seed oil also has a high content of linoleic acid, an essential fatty acid used by the body to help maintain healthy skin and hair. Linoleic acid has been studied for its ability to reduce acne microcomedones (Letawe et al., 1998) and to enhance cellular migration during wound healing (Ruthig et al., 1999).

Body System(s) Affected: The oils in this blend may help it be effective for dealing with various problems related to the Skin and the Immune System.

Safety Data: Repeated use may possibly result in contact sensitization. Use with caution during pregnancy.

Women's Monthly Blend

Quick Facts

This blend combines many different oils often used to help alleviate symptoms often associated with PMS, menopause, and aging.

Common Primary Uses*: Hot Flashes, Hormones (Balancing), Menopause, Menstruation, PMS

Application:

: Apply to the chest, abdomen, or back of neck as needed.

: Diffuse or inhale from the hands.

Single Oils in This Blend:

Clary Sage: is often used to help balance estrogen and other hormones associated with PMS and menopause symptoms.

Lavender: has soothing properties and is often used to help balance and calm emotions associated with PMS.

Bergamot: helps relieve feelings of stress and agitation, relieves tension, and helps balance emotions.

Roman Chamomile: is antispasmotic and has calming and relaxing properties. It is often used to help balance emotions and relieve symptoms related to menopause.

Cedarwood: is calming and helps sooth nervous tension.

Ylang Ylang: has calming and sedative properties. It brings a feeling of self-love, confidence, joy, and peace, and is often used to help balance hormones.

Geranium: may help with hormonal balance, and is often used to combat bone problems such as osteoporosis. It has a calming influence and is used in treating symptoms associated with PMS.

Fennel: is often used to help alleviate issues associated with menopause and premenopause. It has hormone balancing properties, and may be helpful in soothing symptoms related to PMS. It is also often used to help alleviate skin issues related to aging.

Carrot Seed: is often used to help regulate menstruation and soothe symptoms related to PMS.

Palmarosa: helps reduce stress and tension, and uplifts the emotions. It is often used to help alleviate many different skin problems.

Vitex: has been studied for its abilities to regulate estrogen levels, and to alleviate symptoms associated with PMS and menopause (Meier et al., 2000).

Body System(s) Affected: Hormonal System, Emotional Balance, Skin.

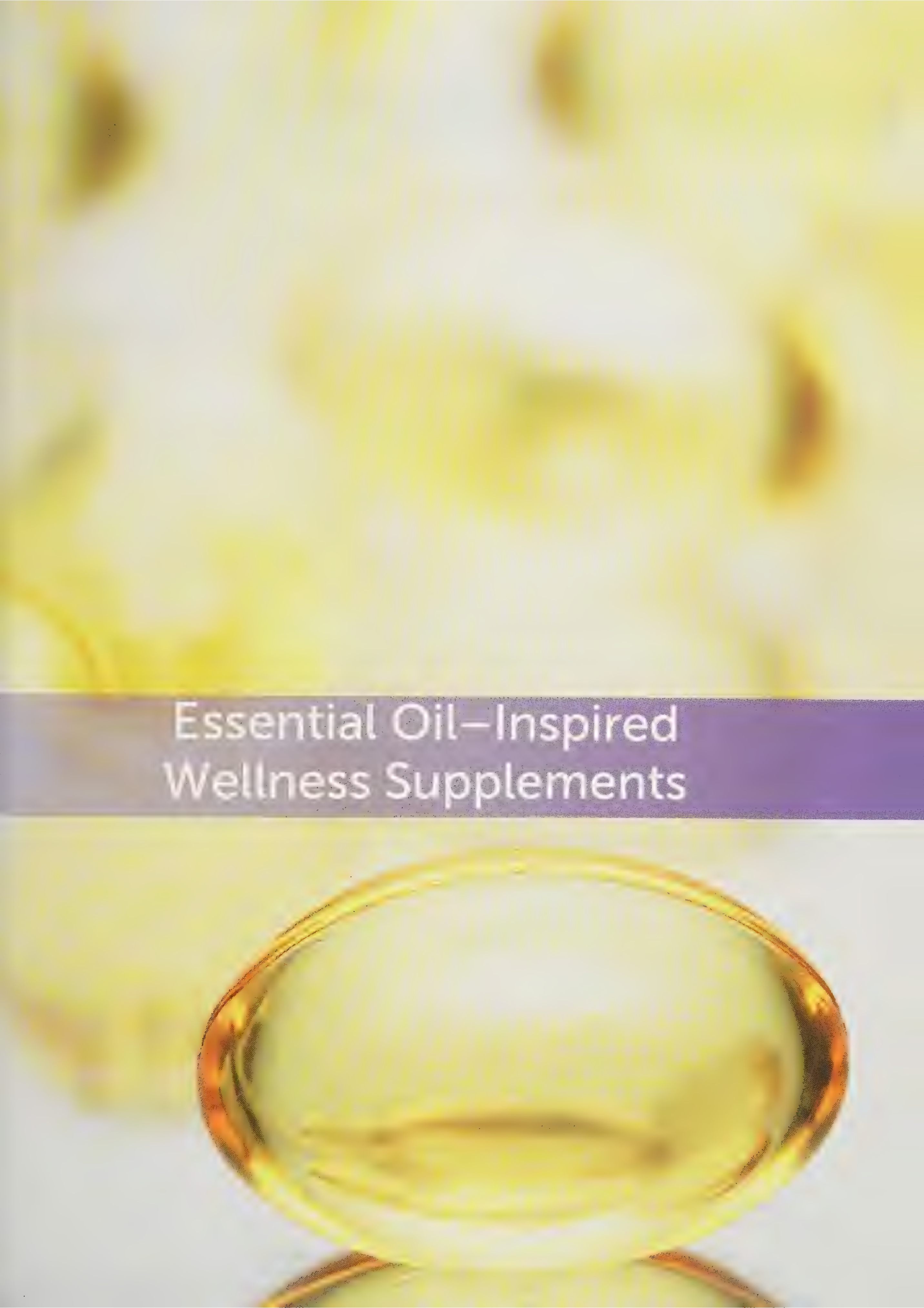
Aromatic Influence: Helps to balance mood and calm stress and tension.

Safety Data: Repeated use may result in contact sensitization—dilute with fractionated coconut oil if this occurs. Consult your doctor before using if you are pregnant or have a medical condition.

**See Personal Usage Guide section for more details on these primary uses.*

●=Neat, ●=Dilute for Children/Sensitive Skin, ●=Dilute

Essential Oil–Inspired Wellness Supplements



Essential Oil–Inspired Wellness Supplements

This section contains examples of various essential oil–inspired supplements and the types of essential ingredients that each supplement may contain.

For further information and research on many of the single oils contained in these supplements, see the Single Essential Oils section of this book.

Appetite Suppressant Bars

These appetite suppressant bars are filled with natural ingredients to help manage weight, hunger, and well-being. One of the key ingredients found in these bars is a spinach leaf extract that has been shown to significantly reduce appetite for up to six hours. Appetite suppressant bars can be used for weight management when combined with a healthy lifestyle, exercise, and a balanced nutrition.

Suggested Key Ingredients:

Organic Brown Rice Syrup and Honey: are used as sweeteners, as an alternative to high-fructose corn syrup.

Yogurt: contains probiotics that have possible health benefits (Jacques et al., 2014). Studies have shown that yogurt may have the ability to assist in weight management (Jacques et al., 2014). Yogurt is a part of a healthy diet because of the many nutrients, including calcium, it contains.

Spinach (*Spinacia oleracea*) Leaf Extract: is packed full of a nutrient called thylakoids. Thylakoids have been shown to slow down digestion and the absorption of fats. Specifically, researchers discovered that ingesting thylakoids (in conjunction with food) suppresses food intake, raises hormones that cause a feeling of being full, and lowers blood lipid levels in rats (Albertsson et al., 2007). Thylakoids work best when consumed with dietary fat because thylakoids decrease the feeling of hunger by slowing down the digestion of fat and allowing the fat to stay longer in the intestine (Albertsson et al., 2007). This lengthened digestion time allows for the body to feel full longer. These appetite suppressant bars contain a small percentage of fat to work with the thylakoids and decrease hunger.

High Oleic Sunflower Oil: is very high in oleic (monosaturated) acid. Eating foods that are high in monounsaturated fats have been found to improve blood cholesterol levels, insulin levels, and blood sugar control (Jenkins et al., 2010; Allman-Farinelli et al., 2005).

Whey Protein Crisp: provides protein, the most satiating macronutrient (Chungchunlam et al., 2014). A recent study showed that consuming whey protein produces a longer lasting feeling of being full than carbohydrates (Chungchunlam et al., 2014).

Gluten-Free Rolled Oats: contain valuable nutrients, including protein, vitamins, and minerals. In a study comparing the appetite sensations of subjects consuming either rolled oats or pinhead oats, subjects reported feeling fuller following the consumption of rolled oats compared with pinhead oats (Gonzalez et al., 2012).

Almonds: are a healthy snack option. A recent study found that woman who consumed a mid-morning almond snack consumed less food at lunch and dinner and experienced enhanced satiety following the almond snack (Hull et al., 2014).

Sunflower Seeds: provide vitamin C, iron, and calcium.

Raisins: are high in fiber and regular consumption of raisins may reduce glycemia and cardiovascular risk factors (Anderson et al., 2014). A study that evaluated after-school snack consumption in young children found that eating raisins led to lower cumulative food intake, compared to other less healthy snacks (Patel et al., 2013).

Organic Flax Meal: is nutritionally beneficial and research has found that consuming flaxseed can help prevent cardiovascular diseases, cancer, diabetes and can enhance spatial memory (Akhtar et al., 2013; Singh et al., 2011). Flaxseed is also an antioxidant agent (Akhtar et al., 2013).

Sesame Seeds: have been shown to possess antioxidant activity (Ben Othman et al., 2015).

Chia Seeds: are packed with fiber, protein, omega-3 fatty acids, calcium, magnesium, phosphorus, and other vitamins.

Tocopherols: are potent antioxidants and may play a role in cellular communication.

Companion Products: Appetite Suppressant Drink Mix and Metabolic Blend.

Appetite Suppressant Drink Mix

This powdered drink mix combines the action of the Metabolic Blend with natural ingredients to help manage weight, hunger, and well-being. One of the key ingredients found in this drink mix is a spinach leaf extract that has been shown to significantly reduce appetite for up to six hours. This drink mix can be used for weight management when combined with a healthy lifestyle, exercise, and a balanced nutrition. The drink mix can be mixed in water, a trim shake, or a favorite beverage.

Suggested Key Ingredients:

Spinach (*Spinacia oleracea*) Leaf Extract: is packed full of a nutrient called thylakoids. Thylakoids have been shown to slow down digestion and the absorption of fats. Specifically, researchers discovered that ingesting thylakoids (in conjunction with food) suppresses food intake, raises hormones that cause a feeling of being full, and lowers blood lipid levels in rats (Albertsson et al., 2007). Thylakoids work best when consumed with dietary fat because thylakoids decrease the feeling of hunger by slowing down the digestion of fat and allowing the fat to stay longer in the intestine (Albertsson et al., 2007). This lengthened digestion time allows for the body to feel full longer. Ideally, the appetite suppressant drink mix, in order to work most effectively, should be consumed during a meal that contains fat.

Ground Flax (*Linum usitatissimum*) Seed Powder: is nutritionally beneficial and research has found that consuming flaxseed can help prevent cardiovascular diseases, cancer, diabetes and can enhance spatial memory (Akhtar et al., 2013; Singh et al., 2011). Flaxseed is also an antioxidant agent (Akhtar et al., 2013).

Grapefruit Essential Oil: is balancing and uplifting to the mind. It has been used medicinally by the French to help with cellulite and digestion. Limonene, a component of grapefruit oil was found to reduce appetite and body weight in rats exposed to the oil for fifteen minutes three times per week (Shen et al., 2005).

Lemon Essential Oil: is invigorating, enhancing, and warming. It promotes health, healing and energy. Lemon oil also displays antioxidant activity (Grassmann et al., 2001).

Peppermint Essential Oil: is purifying and stimulating to the human mind. It may also help soothe digestive difficulties (Kim et al., 2005).

Ginger Essential Oil: may help increase physical energy and promote healthy digestion.

Cinnamon Essential Oil: enhances the action of other oils. It may improve circulation, digestion, and energy levels.

Potato (*Solanum tuberosum*) Tuber Extract: contains a high level of natural proteins, including the protease inhibitor PI-2. PI-2 has been shown to inhibit the digestive enzyme trypsin (Pouvreau et al., 2001). Trypsin inhibitors such as PI-2, have been studied for their ability to induce feelings of fullness by prolonging the secretion of the hormone cholycystokinin, which acts to promote feelings of satiation (Marinangeli et al., 2012).

Companion Products: Appetite Suppressant Bars and Metabolic Blend.

Bone Nutrient Complex

This supplement combines bioavailable vitamins and minerals that have demonstrated a role in promoting bone health, and in preventing age and nutritional related calcium loss and bone demineralization.

Suggested Key Ingredients:

Vitamin C (as glycoprotein matrix): provides stability to collagen (the main protein in connective tissue) and helps synthesize neurotransmitters and carnitine (which helps create energy through the breakdown of fatty acids).

Vitamin D-2 (as ergocalciferol) and Vitamin D-3 (as cholacalciferol): play an important role in bone health and strength and helps modulate hormone secretion and immune function.

Biotin (as d-biotin): helps metabolize fatty acids and is important to the synthesis of glucose from various substances.

Calcium (as coral calcium): plays a critical role in bone structure, density, and strength. It has a role in muscle contraction and nerve cell communication as well.

Magnesium (as magnesium chelate): is required to create many different enzymes in the body, including those that create and use ATP (cellular energy) and that create DNA and RNA.

Zinc (as yeast): is an important component of many enzymes and proteins found in the body and also plays a role in cellular communication.

Copper (as yeast): is found in several different enzymes, including superoxide dismutase.

Manganese (as yeast): is an important component in several different enzymes.

Boron (as yeast): has been studied for its role in decreasing calcium loss and bone demineralization in women, and may play a role in hormone balance (Nielsen et al., 1987) and Vitamin D activation (Samman et al., 1998).

Companion Supplements: Phytoestrogen Complex, Women's Monthly Blend.

Cellular Vitality Complex

Cellular Vitality Complex contains important ingredients that may help to increase cellular health, vitality, and energy.

Suggested Key Ingredients:

***Boswellia serrata* Extract (beta-Boswellic Acids):** Boswellic acids are a family of water-soluble triterpene molecules extracted from the resin of plants in the genus *Boswellia*, such as frankincense. Boswellic acids have been studied for years for their strong anti-inflammatory (Ammon, 2002., Banno et al., 2006., and Gayathri et al., 2007) and anticancerous (Bhushan et al., 2007., Huang et al., 2000 and Liu et al., 2002) properties as well as for their potential to support joint health and to help prevent arthritis (Roy et al., 2006 and Goel et al., 2010). This extract contains six highly-bioavailable beta-boswellic acids.

Scuttelaria Root Extract (Baicalin): Baicalin is a polyphenol extracted from the scuttelaria, or Chinese skullcap, root. Besides being known for its antioxidant properties (Jung et al., 2008), baicalin has also been studied for its anticancer benefits (Zhou et al, 2008 and Franek et al, 2005).

Milk Thistle Extract (Silymarin): Silymarin is a complex of polyphenols extracted from the milk thistle plant. Animal and cellular studies have suggested a toxin-protective effect on the liver from these polyphenols, especially the polyphenol silibinin (Al-Anati et al., 2009 and Abenavoli et al., 2010).

Pineapple Extract (Bromelain Protease Enzymes): Bromelain protease enzymes extracted from the pineapple plant have been studied for their anti-inflammatory (Fitzhugh et al., 2008 and Brien et al., 2004) properties and for their potential to reduce joint pain and arthritis (Walker et al., 2002).

Polygonum Cuspidatum Extract (Resveratrol): Resveratrol is a polyphenol created by plants in a defensive response to bacteria or fungi. In addition to its antioxidant properties (Chakraborty et al, 2008), resveratrol has also been studied for its ability to inhibit skin (Jang et al, 1997) and leukemia (Lee et al, 2005) cancer cell growth and to improve mitochondrial function in cells (Lagouge et al, 2006).

Green Tea Leaf Extract: Green tea extract has been found to protect bone marrow cells from chromosome aberrations (Ito et al., 1989). Green tea may also decrease the risk of cardiovascular disease and some forms of cancer (Cabrera et al., 2006).

Pomegranate Fruit Extract (Ellagic Acid): Ellagic acid is found in raspberries, pomegranates, walnuts, and other fruits and vegetables. This well-researched polyphenol has been studied for its ability to prevent low-density lipoprotein (LDL) oxidation (a known risk factor for cardiovascular disease) (Anderson et al, 2001 and Chang et al, 2008) and atherosclerotic lesions (Yu et al, 2005), which ability could help prevent atherosclerosis.

Turmeric Root Extract (Curcumin): Curcumin is a polyphenol found in turmeric root (a spice commonly used in curry). In recent studies, curcumin was found to prevent and bind amyloid-beta plaques (Yang et al., 2005) and to reduce oxidative stress and DNA damage caused by ameloid-beta in neuronal cells (Park et al., 2008). Ameloid-beta, and its accumulation in the brain in plaque form, has been hypothesized as a possible cause of Alzheimer's disease.

Grape Seed Extract (Proanthocyanidins): Proanthocyanidins extracted from grape seeds were found in one recent study to significantly decrease oxidized LDL in people with high cholesterol (Bagchi et al, 2003).

Sesame Seed Extract: Sesame seeds have been shown to possess antioxidant activity (Ben Othman et al., 2015).

Pine Bark Extract: Pine bark extract is a powerful antioxidant. A recent study found that pine bark extract may prevent alveolar bone resorption and therefore be a possible preventative agent for bone diseases (Sugimoto et al., 2015). Furthermore, pine bark extract enhances antioxidant defense capacity of low-density lipoproteins (complex particles that transport fats around the body) (Nakayama et al., 2015).

Acetyl-L-Carnitine: is a substance created by the body that transports fatty acids to the mitochondria to help break down fats into energy. Supplementation with L-carnitine (the bioactive form of carnitine) was found in several studies to reduce fatigue as well as to increase muscle mass and to decrease fat mass in certain populations (Ciacci et al., 2007, Malaguarnera et al., 2007, Pistone et al., 2003 and Brass et al., 2001).

Alpha Lipoic Acid: plays an important role in the aerobic metabolism of cells. It has a strong antioxidant ability (Zembron-Lacne et al., 2007) and has been studied for its effects on Alzheimer's disease patients (Hager et al., 2007) and as a treatment for neuropathy in diabetic patients (Ziegler et al., 2006 and Tang et al., 2007). Lipoic acid and acetyl-l-carnitine have also been studied together for their ability to reduce the oxidative mitochondrial decay in the brain associated with aging (Long et al., 2009 and Hagen et al., 2002).

Coenzyme Q(10): is a substance that plays a critical role in the electron transport chain that helps create cellular energy. Besides having antioxidant properties, coenzyme Q(10) has also been studied for its neuroprotective effect in Parkinson's disease (Hargreaves et al., 2008, Kooncumchoo et al., 2006 and Winkler-Stuck et al., 2004) and for its ability to help alleviate symptoms of chronic heart failure (Belardinelli et al, 2005 and Keogh et al., 2003) and other cardiovascular problems (Kuettner et al., 2005 and Tiano et al., 2007).

Quercetin: is a polyphenol commonly found in apples, citrus fruits, green vegetables, and many berries. It has been studied for its ability to selectively kill prostate cancer cells without harming surrounding healthy cells (Paliwal et al., 2005 and Aalinkeel et al., 2008).

Ginkgo Biloba Leaf Extract: Ginkgo biloba leaf extract's antioxidant activity has been shown to protect the liver against damage (Parimoo et al., 2014).

Tummy Taming Blend: An herbal blend that combines peppermint leaf, ginger root extract, and caraway seed to help keep the stomach calm.

Companion Supplements: Essential Oil Omega Complex, Food Nutrient Complex

Chewable Multivitamin

This supplement is a complete daily nutrient supplement for children and for those who have a hard time swallowing pills.

Suggested Key Ingredients:

–Vitamin and Mineral Complex:

Vitamin A (natural alpha and beta carotene): plays a role in vision, skin health, and DNA transcription.

Vitamin C (from acerola cherry fruit extract): provides stability to collagen (the main protein in connective tissue) and helps synthesize neurotransmitters and carnitine (which helps create energy through the breakdown of fatty acids).

Vitamin D_3 (as cholecalciferol): plays an important role in bone health and strength and helps modulate hormone secretion and immune function.

Vitamin E (as d-alpha tocopheryl acetate and mixed tocopherols): is a potent antioxidant and may play a role in cellular communication.

Thiamin/Vitamin B1 (as thiamine HCl): plays a critical role in generating energy from carbohydrates within the cell and is critical to healthy heart and nerve cell function.

Riboflavin/Vitamin B2: plays an important role in the creation of energy from lipids and carbohydrates in the cell as well as in the synthesis of several other important cellular chemicals.

Niacin/Vitamin B3 (as niacinamide): plays a role in cellular metabolism. Deficiency of niacin can result in dermatitis, diarrhea, confusion, and dementia.

Vitamin B6 (as pyridoxine HCl): is a necessary coenzyme to several enzymes involved in metabolism as well as to the creation of neurotransmitters such as serotonin and epinephrine.

Folic Acid: is necessary for cells to create nucleotides (the building blocks of DNA and RNA).

Vitamin B12 (as methylcobalamin): plays a key role in the synthesis of DNA by regenerating folate and is also critical to maintaining a healthy myelin sheath that preserves the normal functioning of the nervous system.

Biotin: helps metabolize fatty acids and is important to the synthesis of glucose from various substances.

Pantothenic Acid/Vitamin B5 (as d-calcium pantothenate): plays an important role in the creation of energy within the cell and in the creation of cholesterol, various fatty acids, and acetylcholine (a neurotransmitter that allows cells within the nervous system to communicate with each other).

Calcium (as calcium amino acid chelate): plays a critical role in bone structure and has a role in muscle contraction and nerve cell communication as well.

Iron (iron amino acid chelate): is part of the structure of heme (a critical part of the protein hemoglobin that allows red blood cells to transport oxygen throughout the body) as well as several other proteins. It also plays a role in several other important enzymatic reactions within the body.

Iodine (from potassium iodide): is a necessary nutrient for the creation of regulating hormones in the thyroid.

Magnesium (as magnesium amino acid chelate): is required to create many different enzymes in the body, including those that create and use ATP (cellular energy) and that create DNA and RNA.

Zinc (as zinc amino acid chelate): is an important component of many enzymes and proteins found in the body and also plays a role in cellular communication.

Copper (as copper amino acid chelate): is found in several different enzymes, including superoxide dismutase.

Manganese (as manganese amino acid chelate): is an important component in several different enzymes.

Potassium (as potassium glycinate): plays a critical role in nerve cell transmission and muscle control.

Choline (as choline bitartrate): is critical for healthy cell membrane structure and certain types of nerve cell transmissions.

Inositol: is an important part of the phospholipid structure of cell membranes and cellular messengers.

–Superfood Blend:

Pineapple (Bromelain Protease Enzymes): Bromelain protease enzymes from the pineapple plant have been studied for their anti-inflammatory (Fitzhugh et al., 2008 and Brien et al., 2004) properties and for their potential to reduce joint pain and arthritis (Walker et al., 2002).

Pomegranate Extract (Ellagic Acid): Ellagic acid is found in raspberries, pomegranates, walnuts, and other fruits and vegetables. This well-researched polyphenol has been studied for its ability to prevent low-density lipoprotein (LDL) oxidation (a known risk factor for cardiovascular disease) (Anderson et al, 2001 and Chang et al, 2008). and atherosclerotic lesions (Yu et al, 2005), which ability could help prevent atherosclerosis.

Lemon Bioflavonoids: have antioxidant potential.

Spirulina: is high in amino-acids, vitamin B12, and essential fatty acids.

Sunflower Oil: is high in the essential fatty acids oleic and linoleic acids.

Others: Rice Bran, Beet Greens, Broccoli, Brown Rice, Carrot, Mango, Cranberry, Rose Hips, Spinach, Acerola Cherry Extract.

–Cellular Vitality Complex Blend:

Tomato Fruit Extract (Lycopene): Lycopene is a red-colored pigment found in many red plants. It has been studied for its potential role in reducing the risk of prostate cancer (Giovannucci et al, 2002).

Turmeric Root Extract (Curcumin): Curcumin is a polyphenol found in turmeric root (a spice commonly used in curry). In recent studies, curcumin was found to prevent and bind amyloid-beta plaques (Yang et al., 2005) and to reduce oxidative stress and DNA damage caused by ameloid-beta in neuronal cells (Park et al., 2008). Ameloid-beta, and its accumulation in the brain in plaque form, has been hypothesized as a possible cause of Alzheimer's disease.

Boswellia serrata **Extract (Beta-Boswellic Acids):** Boswellic acids are a family of water-soluble triterpene molecules extracted from the resin of plants in the genus *Boswellia*, such as frankincense. Boswellic acids have been studied for years for their strong anti-inflammatory (Ammon, 2002, Banno et al., 2006, and Gayathri et al., 2007) and anticancerous (Bhushan et al., 2007, Huang et al., 2000, and Liu et al., 2002) properties as well as for their potential to support joint health and to help prevent arthritis (Roy et al., 2006, and Goel et al., 2010). This extract contains six highly-bioavailable beta-boswellic acids.

Grape Seed Extract (Proanthocyanidins): Proanthocyanidins extracted from grape seeds were found in one recent study to significantly decrease oxidized LDL in people with high cholesterol (Bagchi et al, 2003).

Marigold Flower Extract (Lutein): Lutein is created in many plants as an antioxidant and a light absorber. In humans, lutein is found in high concentration in the macula, the area of the eye where central vision occurs. Lutein supplementation has been found in at least one study to improve the visual acuity and macular pigment optical density in patients with age-related macular degeneration (Richer et al., 2004).

Companion Supplements: Omega-3 Fish Oil

Detoxification Complex

This supplement is a blend of whole-food based nutrients that may help promote healthy endocrine gland functions and the filtering of toxins by the body's systems.

Suggested Key Ingredients:

Psyllium Seed Husk Powder: contains a high level of soluble fiber that can help keep the digestive tract and the colon functioning properly.

Barberry Leaf: contains the alkaloid berberine, which has been studied for its ability to aid the pancreas in regulating insulin production, thus promoting healthy blood sugar levels (Zhou et al., 2009).

Turkish Rhubarb Stem: has been used in traditional Chinese medicine to promote healthy bowel movement, aiding in clearing the intestines and colon of waste.

Kelp: is naturally high in the essential element iodine, which is necessary for proper thyroid functioning.

Milk Thistle Seed (Silymarin): Silymarin is a complex of polyphenols extracted from the milk thistle plant. Animal and cellular studies have suggested a toxin-protective effect in the liver of these polyphenols, especially the polyphenol silibinin (Al-Anati et al., 2009 and Abenavoli et al., 2010).

Osha Root: was used by native Americans as a purifier and was chewed to help resolve sore throat and upper respiratory tract ailments.

Safflower Petals: are used in traditional Chinese medicine to aid the endocrine system in promoting healthy menstrual functioning in women.

Acacia Gum Bark: is known as a natural astringent that can decrease diarrhea and bloody discharges.

Burdock Root: has been used traditionally to help clear the body of toxins and has been used as a diuretic to help eliminate uric acid. It has also been studied for its ability to help protect liver cells from toxins (Lin et al., 2000).

Clove Bud: has very potent antimicrobial (Fabio et al., 2007, Smith-Palmer et al., 2004, Hitokoto et al., 1980, and Benencia et al., 2000) and antioxidant (Chaieb et al., 2007) properties that can help protect cells from toxins.

Dandelion Root (Inulin): has been studied for its ability to protect liver cells from toxin-induced damage (Domitrović et al., 2010 and Mahesh et al., 2010).

Garlic Fruit: is known for its antibacterial and antiseptic properties and has been studied for its potential to help decrease problems related to diabetes (Younis et al., 2010 and Drobiova et al., 2009).

Marshmallow Root: has been used traditionally to soothe coughs and irritations of the upper respiratory tract and to soothe irritations of tissues of the gastrointestinal tract, due to its ability to both coat the mucous membrane linings and to stimulate epithelial cell function within these membranes (Deters et al., 2010).

Red Clover Leaf (Isoflavones): contains high levels of isoflavones, which are structurally similar to natural estrogens in the body. These isoflavones have been studied for their abilities to help regulate healthy estrogen-mediated functions in postmenopausal women (Lipovac et al., 2010).

Enzyme Assimilation System: A patented system that contains special enzymes and mineral cofactors that may enhance digestion and nutrient absorption in the small intestine and blood stream, including amylase (breaks complex carbohydrates into sugars), protease (breaks proteins into smaller amino acids), cellulase (breaks cellulose into sugars), and lipase (breaks fats and lipids into their component parts).

Companion Supplements: Digestive Blend, Digestive Softgels, Digestive Enzyme Complex.

Digestive Enzyme Complex

This supplement blends food-derived enzymes and mineral cofactors that can aid in the digestion and absorption of critical nutrients that are lacking in many of today's diets.

Suggested Key Ingredients:

Protease (Aspergillus): aids in breaking proteins down into smaller amino acid units for use by the body to create necessary protein structures.

Papain (Papaya): is used to aid digestion and treat parasitic worms. Papain assists the body in breaking down proteins (meat) during digestion.

Amylase (Aspergillus): begins the process of breaking down complex carbohydrates such as starches into simpler sugars such as maltose.

Lactase (Aspergillus): is the enzyme responsible for breaking down lactose (a sugar in milk). Ingesting lactase assists in the digestion of milk and dairy products.

Lipase (Rhizopus): aids in breaking down large lipids and fats to help release energy and to create smaller units that can be used to build critical lipid-based structures such as hormones and the cell membrane.

Alpha Galactosidase (Aspergillus): aids in breaking down glycolipids and glycoproteins.

Cellulase (Trichoderma): breaks down cellulose into simpler sugars such as glucose for use as energy.

Sucrase (Saccharomyces): converts the disaccharide sucrose into fructose and glucose for use by the body for energy.

Betaine HCL: delivers hydrochloric acid to the stomach.

Glucoamylase (Aspergillus): is a digestive enzyme that breaks down starch and frees up glucose molecules for use by the body for energy.

Anti-gluten Enzyme Blend (Aspergillus): aids in breaking down gluten.

Tummy Taming Blend: An herbal blend that combines peppermint leaf, ginger root extract, and caraway seed to help keep the stomach calm.

Companion Supplements: Digestive Blend, Digestive Softgels, Detoxification Complex.

Digestive Softgels

Digestive Softgels are a convenient way to take the Digestive Blend, which contains oils that have been studied for their abilities to soothe digestive symptoms and support the digestion system.

Suggested Key Ingredients

Ginger: is warming, uplifting, and empowering. Emotionally, it may help influence physical energy, love, and courage. Because of its calming influence on the digestive system, it may help reduce feelings of nausea and motion sickness.

Peppermint: is an anti-inflammatory to the prostate and nerves. It is soothing, cooling, and dilating to the system. It may also be beneficial for counteracting food poisoning, vomiting, diarrhea, constipation, flatulence, halitosis, colic, nausea, and motion sickness.

Tarragon: may help to reduce anorexia, dyspepsia, flatulence, intestinal spasms, nervous and sluggish digestion, and genital urinary tract infection.

Fennel: may help improve digestive function by supporting the liver. It may also help balance the hormones.

Caraway: is antiparasitic and antispasmodic. It may also help with indigestion, gas, and colic.

Coriander: is antispasmodic and has anti-inflammatory properties. It may also help with indigestion, flatulence, diarrhea, and other spasms of the digestive tract.

Anise: may help calm and strengthen the digestive system.

Companion Blend: Digestive Blend.

Energy & Stamina Complex

This multi-nutrient supplement would be a natural alternative to unhealthy energy drinks to support stamina and increase cellular health, vitality, and energy.

Suggested Key Ingredients:

Acetyl-L-Carnitine HCL: is a substance created by the body that transports fatty acids to the mitochondria to help break down fats into energy. Supplementation with L-carnitine (the bioactive form of carnitine) was found in several studies to reduce fatigue as well as to increase muscle mass and to decrease fat mass in certain populations (Ciacci et al., 2007, Malaguarnera et al., 2007, Pistone et al., 2003 and Brass et al., 2001).

Alpha Lipoic Acid: plays an important role in the aerobic metabolism of cells. It has a strong antioxidant ability (Zembron-Lacne et al., 2007) and has been studied for its effects on Alzheimer's disease patients (Hager et al., 2007) and as a treatment for neuropathy in diabetic patients (Ziegler et al., 2006 and Tang et al., 2007). Lipoic acid and acetyl-l-carnitine have also been studied together for their ability to reduce the oxidative mitochondrial decay in the brain associated with aging (Long et al., 2009 and Hagen et al., 2002).

Coenzyme Q(10): is a substance that plays a critical role in the electron transport chain that helps create cellular energy. Besides having antioxidant properties, coenzyme Q(10) has also been studied for its neuroprotective effect in Parkinson's disease (Hargreaves et al., 2008, Kooncumchoo et al., 2006 and Winkler-Stuck et al., 2004) and for its ability to help alleviate symptoms of chronic heart failure (Belardinelli et al, 2005 and Keogh et al., 2003) and other cardiovascular problems (Kuettner et al., 2005 and Tiano et al., 2007).

Lychee (*Litchi chinensis*) Fruit Extract: protects against free radicals and oxidation.

Green Tea (*Camellia sinensis*) Leaf Polyphenol Extract: Green tea extract has been found to protect bone marrow cells from chromosome aberrations (Ito et al., 1989). Green tea may also decrease the risk of cardiovascular disease and some forms of cancer (Cabrera et al., 2006).

Quercetin (from *Sophorae japonica* Bud): is a polyphenol commonly found in apples, citrus fruits, green vegetables, and many berries. It has been studied for its ability to selectively kill prostate cancer cells without harming surrounding healthy cells (Paliwal et al., 2005 and Aalinkeel et al., 2008).

Cordyceps (*Cordyceps sinensis*) Mycelium: have been shown in several animal studies to enhance endurance (Jung et al., 2004) by promoting enhanced ATP (cellular energy) production (Siu et al., 2004). Cordyceps have also demonstrated a high antioxidant activity (Liet al., 2001) and the ability to help restore libido in both men and women (Zhu et al., 1998).

Ginseng (*Panax quinquefolius*) Root Extract: Various components from ginseng have been studied for their abilities to help modulate the immune system, regulate blood glucose levels, and reduce tumors (Benzie et al., 2011). Ginseng is also the topic of considerable research for its potential ability to help improve memory (Qiu et al., 1995) and protect against neurodegenerative diseases, such as dementia and Alzheimer's disease (Yang et al., 2009 and Shieh et al., 2008).

Ashwagandha (*Withania somnifera*) Root Extract: has demonstrated a potential to help reduce stress (Archana et al., 1999 and Bhattacharya et al., 1987) and to help lower blood serum cortisol levels (Abedon, 2008). Cortisol—a hormone created by the adrenal glands—is released into the blood as the result of stress or anxiety, and it also plays a role in the body's sleep/wake cycle. When an individual is exposed to constant or chronic stress, levels of cortisol remain elevated in the body, disrupting the body's ability to relax and its ability to sleep naturally, sapping it of needed energy. Animal tests with ashwagandha root extract have also demonstrated an ability to increase energy and stamina, nearly doubling the endurance time of rats in forced swimming tests (Singh et al., 2011). Ashwagandha has also shown promising potential in helping to mitigate the damage to nerve cells found in conditions such as Huntington's disease, Parkinson's disease (Nagashyana et al., 2000), and Alzheimer's disease (Bhattacharya et al., 1995) and may help improve cognition (Singh et al., 1993). It is also a powerful antioxidant.

Companion Supplements: Cellular Vitality Complex, Essential Oil Omega Complex, Food Nutrient Complex.

Essential Oil Cellular Complex

The oils in this essential oil blend have been chosen for their abilities to provide antioxidant support for the cells and to promote a healthy cellular life cycle.

Suggested Key Ingredients:

Frankincense: has anti-inflammatory and immune-stimulant properties. It is often used to help support the body's response to cancer and other cellular diseases.

Orange: contains high levels of d-Limonene, which has demonstrated potential in inhibiting cancer tumor growth (Kato et al., 1992) and has also been shown to reduce cholesterol levels in animal studies (Sorentino et al., 2005).

Lemongrass: has anti-inflammatory and antiseptic properties. Constituents found in this oil have demonstrated an ability to inhibit cancer cell growth (Carnesecchi et al., 2001) and to induce apoptosis (cellular death) in human leukemia cells (Kumar et al., 2008).

Thyme: has strong antioxidant and antiseptic properties. It is often used to help support the brain as it ages.

Summer Savory *(Satureja hortensis)*: has demonstrated antifungal (Sabzghabaee et al., 2012) and anti-inflammatory (Hajhashemi et al., 2012) properties. Studies have also demonstrated the ability of summer savory oil to decrease lipid peroxidation associated with aging in mice (Misharina et al., 2011) and to reduce DNA damage caused by oxidative stress in rat lymphocytes (Mosaffa et al., 2006). Additionally, a methanol extract of *Satureja hortensis* was found to reduce blood platelet adhesion (a risk factor in cardiovascular disease) in vitro (Yazdanparast et al., 2008).

Clove: has high antioxidant properties and is anti-infectious and helps support healthy liver and thyroid function.

Niaouli (*Melaleuca quinquenervia*): has powerful antifungal properties and is anti-inflammatory. It is often used to help protect against radiation and also to help regenerate damaged tissue.

Essential Oil Omega Complex

This complex is a blend of essential fatty acids. It includes essential fatty acids from both marine and land sources, the potent antioxidant astaxanthin, and an essential oil blend that helps enhance the benefits of the essential fatty acids.

Suggested Key Ingredients:

Fish Oil (as Anchovy, Sardine, and Mackerel) and Calamari Oil Concentrates (EPA, DHA, and other Omega-3's): Eicosapentaenoic acid (or EPA) is an omega-3 fatty acid. It is largely known for its anti-inflammatory benefits but has also been found in several studies to help individuals suffering from depression (Su et al., 2008, Osher et al., 2005, Lucas et al., 2009 and Frangou et al., 2006). Docosahexaenoic acid (or DHA) is another omega-3 fatty acid that is found in high concentrations in the brain and in the retina of the eye, where it is part of several important phospholipids. DHA has also been studied for its ability to help inhibit colon (Kato et al., 2002) and prostate (Shaikh et al., 2008) cancer cells. Taken together in fish oil, there is strong evidence that EPA and DHA can help with high blood pressure (Erkkila et al., 2008, Mori et al., 1999, and Morris et al., 1993) and cardiovascular disease (Erkkila et al., 2004 and Bucher et al., 2002), especially in high-risk individuals. When taken together by pregnant women, EPA and DHA have also been found to have beneficial effects on these women's children, such as reduced allergies (Furuhjelm et al., 2009 and Dunstan et al., 2003) and improved neurological development (Helland et al., 2003).

***Echium plantagineum* Seed Oil (ALA, SDA, and GLA):** Alpha linolenic acid (ALA), Stearidonic acid (SDA), and Gamma-linolenic acid (GLA) are fatty acids. Omega-3 fatty acids are essential nutrients for health. The body partially converts ALA, an omega-3 fatty acid, to EPA and DHA, other omega-3 fatty acids. Omega-3 fatty acids have been found to help soothe joint stiffness and pain, lower levels of depression, and protect against dementia.

Pomegranate Seed Oil: 9cis, 11trans, 13cis-conjugated linolenic acid (or punicic acid) is a conjugated linolenic acid (CLNA) that is found in pomegranate seed oil. This isomer of linolenic acid has been studied for its antioxidant (Saha et al., 2009) and anti-inflammatory (Boussetta et al., 2009) properties.

Astaxanthin: Astaxanthin is a natural carotenoid that can be found in many marine plants (and in the animals that eat these plants), but it is found in the most abundance in marine algae. This dark, red-colored cerotenoid pigment has been well studied for its potent antioxidant abilities (Palozza et al., 1992 and Naguib et al., 2000) and has demonstrated a unique potential to cross the blood-brain barrier in mammals, making it a prime candidate for treating diseases of the central nervous system caused by oxidative damage (Tso et al., 1994).

Lutein (from Marigold Flower): is a natural carotenoid synthesized by plants and found abundantly in green leafy vegetables (Khachik et al., 1995). Lutein has been found to be an antioxidant (Khachik et al., 1995), photoprotectant (protect the eye from oxidative stress caused by UV radiation and decrease risk of age-related macular degeneration) (Abdel-Aal et al., 2013), and a promising chemopreventive agent (Khachik et al., 1995).

Zeaxanthin (from Marigold Flower): is a natural carotenoid that has been found to have an important role in eye health (Abdel-Aal et al., 2013). Both lutein and zeaxanthin have been shown to decrease the risk of age-related macular degeneration (Abdel-Aal et al., 2013).

Lycopene (from Tomato Fruit): is a red carotene found in tomatoes, carrots, and watermelons as well as other fruits and vegetables. Lycopene has strong antioxidant activity.

Vitamin A (as alpha and beta carotene): are antioxidants. A recent study found that administration of beta-carotene for 12 weeks reduced oxidative stress in male subjects (Kasperczyk et al., 2014).

Vitamin D_3 (as natural cholecalciferol): plays an important role in bone health and strength and helps modulate hormone secretion and immune function.

Vitamin E (d-alpha & natural mixed tocopherols): is a potent antioxidant and may play a role in cellular communication.

Clove Essential Oil: is highly antioxidant as well as anti-inflammatory. It may also help relieve pain and skin problems.

Frankincense Essential Oil: is an immune stimulant and is anti-inflammatory. It may also help with blood pressure and depression.

Thyme Essential Oil: Thymol in thyme is highly antioxidant. Thyme oil may help with depression and fatigue.

Cumin Essential Oil: is a digestive aid and may help with indigestion and flatulence.

Orange Essential Oil: aids the digestive system and may help with indigestion and diarrhea.

Peppermint Essential Oil: is anti-inflammatory and antispasmodic. It may help with intestinal cramping and spasms as well as with feelings of nausea.

Ginger Essential Oil: is calming to the digestive system. It may help alleviate feelings of nausea and indigestion.

Caraway Essential Oil: is antispasmodic and antiparasitic. It may also help with indigestion and diarrhea and may be calming to the intestinal muscles.

German Chamomile Essential Oil: is anti-inflammatory and aids the digestive system. It may also aid liver function and help alleviate gastritis.

Companion Supplements: Cellular Vitality Complex, Food Nutrient Complex.

Food Nutrient Complex

This multivitamin combines natural vitamins and minerals with a complex of whole-food nutrients and minerals that are bound to a glycoprotein matrix to help enhance their bioavailability. These nutrients help support healthy cell, tissue, and system function. Additionally, this supplement contains a whole-food blend and a patented enzyme assimilation system to help further enhance nutrient bioavailability.

Suggested Key Ingredients:

Vitamin A (as retinyl palmitate and alpha and beta carotene): plays a role in vision, skin health, and DNA transcription.

Vitamin C (as calcium ascorbate and magnesium ascorbate): provides stability to collagen (the main protein in connective tissue) and helps synthesize neurotransmitters and carnitine (which helps create energy through the breakdown of fatty acids).

Vitamin D_3 (as natural cholecalciferol): plays an important role in bone health and strength and helps modulate hormone secretion and immune function.

Vitamin E (as natural mixed tocopherols and tocotrienols): is a potent antioxidant and may play a role in cellular communication.

Vitamin K (as phytonadione and menaquinone-7): is required by the liver to create the proteins involved in blood clotting and in bone structure.

Thiamin (as thiamin mononitrate): plays a critical role in generating energy from carbohydrates within the cell and is critical to healthy heart and nerve cell function.

Riboflavin: plays an important role in the creation of energy from lipids and carbohydrates in the cell as well as in the synthesis of several other important cellular chemicals.

Niacin (as niacinamide): plays a role in cellular metabolism. Deficiency of niacin can result in dermatitis, diarrhea, confusion, and dementia.

Vitamin B_6 (as pyridoxine HCL): is a necessary coenzyme to several enzymes involved in metabolism as well as to the creation of neurotransmitters such as serotonin and epinephrine.

Folic Acid (as folic acid and methyltetrahydrofolate): is necessary for cells to create nucleotides (the building blocks of DNA and RNA).

Vitamin B_{12} (as methylcobalamin): plays a key role in the synthesis of DNA by regenerating folate and is also critical to maintaining a healthy myelin sheath that preserves the normal functioning of the nervous system.

Biotin: helps metabolize fatty acids and is important to the synthesis of glucose from various substances.

Pantothenic Acid (as calcium pantothenate): plays an important role in the creation of energy within the cell and in the creation of cholesterol, various fatty acids, and acetylcholine (a neurotransmitter that allows cells within the nervous system to communicate with each other).

Calcium (as dicalcium malate and ascorbate): plays a critical role in bone structure and has a role in muscle contraction and nerve cell communication as well.

Iron (as bis-glycinate chelate): is part of the structure of heme (a critical part of the protein hemoglobin that allows red blood cells to transport oxygen throughout the body) as well as several other proteins. It also plays a role in several other important enzymatic reactions within the body.

Iodine (as potassium iodide): is used by the thyroid gland to synthesize hormones. Deficiency in iodine can cause intellectual disability in children and other health problems.

Magnesium (as dimagnesium malate and ascorbate): is required to create many different enzymes in the body, including those that create and use ATP (cellular energy) and that create DNA and RNA.

Zinc (as bis-glycinate chelate): is an important component of many enzymes and proteins found in the body and also plays a role in cellular communication.

Selenium (as glycinate and selenomethionine): plays a role as a cofactor for several enzymes within the body, including several in the thyroid.

Copper (as bis-glycinate chelate): is found in several different enzymes, including superoxide dismutase.

Manganese (as bis-glycinate chelate): is an important component in several different enzymes.

Chromium (as nicotinate glycinate chelate): is believed to play a role in sugar and lipid metabolism within the body.

Polyphenol Blend: A blend of grape seed extract (an antioxidant), quercetin (polyphenol found in fruits and vegetables), rutin, pomegranate fruit extract (strong antioxidant), citrus fruit polyphenol extract, resveratrol, and Indian kino tree wood extract.

Whole-Food Blend: A blend of kale leaf extract, dandelion leaf powder, parsley leaf powder, spinach leaf powder, brocolli aerial parts powder, cabbage leaf extract, and brussels sprout immature inflorescences powder.

Tummy Taming Blend: An herbal blend with peppermint leaf, ginger root extract, and caraway seed to help keep the stomach calm.

Companion Supplements: Cellular Vitality Complex, Essential Oil Omega Complex.

Fruit & Veggie Drink Mix

This powdered drink blend consists of a wide assortment of fruits and vegetables known to contain high levels of vitamins, minerals, and other important nutrients that are often missing from the diet of the average person. This drink mix can help boost overall nutrient levels in the average diet, helping to support the body in maintaining optimal health.

Suggested Key Ingredients:

Kale: is a green leafy vegetable that has a high content of vitamin C, β-carotene, nutritive fiber, phenolic compounds, and high antioxidant activity (Sikora et al., 2012).

Collard Greens: is a leafy vegetable that has a high vitamin content and has been studied for its ability to help protect against elevations of atherogenic fatty acids (Johnson et al., 2013).

Dandelion Greens: are high in vitamins A, C, and K, as well as several minerals. Dandelion greens have been studied for their ability to help manage weight (Gonzalez-Castejon et al., 2014; Zhant et al., 2008) and as an antioxidant (Choi et al., 2010).

Wheat Grass: is high in vitamins C & E (Shukla et al., 2009) and has been studied for its antioxidant abilities (Shyam et al., 2007).

Barley Grass: is high in flavonoids that have potent antioxidant activity (Kamiyama et al., 2012).

Guava: is high in fiber, vitamin C, and polyphenols. Guava fruit has been studied for its potential to aid with obesity (Norazmir et al., 2010) and diabetes (Huang et al., 2011).

Acerola Cherry: are small berries from South and Central America. This fruit is extremely high in vitamin C and contains other A and B vitamins as well. It has been studied for its strong antioxidant properties (Schreckinger et al., 2010; Leffa et al., 2013) and its potential to help reduce weight gain (Dias et al., 2014).

Goji Berry: contains high levels of various vitamins and minerals, as well as amino acids, polyphenols, and other nutrients. It has been studied for its antioxidant properties (Zhang et al., 2011; Bucheli et al., 2011; Reeve et al., 2010).

Lemon Essential Oil: has a great citrus flavor and has been studied for its antioxidant properties (Grassman et al., 2001) and its ability to help support the digestive system (Kime et al., 2005; Rozza et al., 2011).

Ginger Essential Oil: is well known for its ability to help soothe the digestive system and has also been studied for its abilities to help support the liver (Liu et al., 2013).

Companion Supplement: Trim Shake.

GI Cleansing Formula

GI Cleansing Formula blends essential oils with caprylic acid to help support the gastrointestinal tract in eliminating pathogens.

Suggested Key Ingredients

Oregano Essential Oil: has antibacterial, antifungal, antiparasitic, and antiviral properties.

Melaleuca Essential Oil: has demonstrated strong antifungal properties as well as antibacterial, antiparasitic, and antiviral abilities. It may also help reduce inflammation.

Lemon Essential Oil: is often used for its antiseptic and antiviral properties.

Lemongrass Essential Oil: has demonstrated antiseptic and anti-inflammatory properties.

Peppermint Essential Oil: has demonstrated antibacterial and antiviral properties.

Thyme Essential Oil: is highly antibacterial, as well as antifungal.

Caprylic Acid: is a fatty acid naturally found in coconut milk, breast milk, and other sources. It has demonstrated antimicrobial properties against pathogens such as *E. Coli* (Marounek et al., 2003), *Salmonella* (Skrivanova et al., 2004 and Johny et al., 2009), and *Strep* (Nair et al., 2009), among others.

Omega-3 Fish Oil

Omega-3 Fish Oil provides all of the essential fatty acid benefits from fish oil without the fishy taste. It should be molecularly filtered to remove the fish aroma and naturally flavored with orange essential oil for a great taste even kids will love.

Suggested Key Ingredients:

Fish Oil Concentrate (EPA, DHA): Eicosapentaenoic acid (or EPA) is an omega-3 fatty acid. It is largely known for its anti-inflammatory benefits but has also been found in several studies to help individuals suffering from depression (Su et al., 2008, Osher et al., 2005, Lucas et al., 2009 and Frangou et al., 2006). Docosahexaenoic acid (or DHA) is another omega-3 fatty acid that is found in high concentrations in the brain and in the retina of the eye, where it is part of several important phospholipids. DHA has also been studied for its ability to help inhibit colon (Kato et al., 2002) and prostate (Shaikh et al., 2008) cancer cells. Taken together in fish oil, there is strong evidence that EPA and DHA can help with high blood pressure (Erkkila et al., 2008, Mori et al., 1999 and Morris et al., 1993) and cardiovascular disease (Erkkila et al., 2004 and Bucher et al., 2002), especially in high-risk individuals. When taken together by pregnant women, EPA and DHA have also been found to have beneficial effects on these women's children, such as reduced allergies (Furuhjelm et al., 2009 and Dunstan et al., 2003) and improved neurological development (Helland et al., 2003).

Vitamin D: plays an important role in bone health and strength and helps modulate hormone secretion and immune function.

Vitamin E (as natural mixed tocopherols): is a potent antioxidant and may play a role in cellular communication.

Vitamin C (as ascorbyl palmitate): provides stability to collagen (the main protein in connective tissue) and helps synthesize neurotransmitters and carnitine (which helps create energy through the breakdown of fatty acids).

Orange Essential Oil: aids the digestive system and may help with indigestion and diarrhea. Contains high levels of d-Limonene, which has demonstrated a role in promoting healthy cellular function.

Companion Supplement: Chewable Multivitamin.

Phytoestrogen Complex

This complex may help women maintain a healthy estrogen balance with a potent blend of phytoestrogens (plant-derived estrogen-mimicking compounds) from soy, pomegranate and flax seeds.

Suggested Key Ingredients:

Soy Extract (64% isoflavones with a minimum 50% genistein): Isoflavones such as genistein act as phytoestrogens in the body that bind with the estrogen receptor beta (ER-β) within cells. Unlike estrogen receptor alpha (ER-α), which is found in high concentrations in all parts of the female reproductive tract and mammary tissues, beta receptors are found in much smaller concentrations in uterine and mammary tissues (Couse et al., 1997). This seems to indicate that soy phytoestrogens do not directly act on cells in uterus and breast tissue. This can be important as over-estrogenation of cells in the mammary tissues has been linked to an increased risk for breast cancer. Isoflavones from soy have also been found to reduce levels of potentially carcinogenic estrogen metabolites in postmenopausal women (Xu et al., 2000 and Xu et al., 1998) and also to enhance levels of protective estrogen metabolites (Lu et al., 2000).

Flax Seed Extract (40% lignan): Flax seed contains several potent lignans which are metabolized by gastrointestinal bacteria into the active phytoestrogenic lignans, enterodiol and enterolactone. Both of these lignans have been studied for their antiproliferative effect on breast cancer cells (Truan et al., 2012 and Mabrok et al., 2012) and evidence had been found that they may help lower blood triglyceride levels while raising levels of the good high density lipoproteins (HDL) in the blood (Zhang et al., 2008 and Penalvo et al., 2012).

Pomegranate Extract (40% ellagic acid): contains strong antioxidants in addition to several phytoestrogens that are being studied for their roles in regulating hormone balance and their potential roles in reducing breast cancer growth (Strati et al., 2009).

Safety Data: If pregnant, lactating, or experiencing any health conditions, consult a physician before using.

Companion Nutrients: Bone Nutrient Complex, Women's Monthly Blend.

Probiotic Defense Formula

This supplement blends six strains of probiotic intestinal flora that can help support healthy colonies of friendly microflora in the digestive tract. These probiotics are recommended to be taken using a special double-coated capsule that protects the flora as they pass through the stomach.

Suggested Key Ingredients:

Lactobacillus acidophilus: is a bacteria that converts sugars (such as lactose in dairy products) into lactic acid. It may also help to control the growth of *Candida albicans*, helping to prevent oral and vaginal yeast infections. It is commonly used to create yogurt.

Bifidobacterium lactis: is found in the intestines and can help support healthy digestion and immune function. It can be found in yogurt.

Lactobacillus salivarious: is a bacteria commonly found in the intestines. *L. salivarious* has been studied for its ability to help reduce inflammation and prevent the adhesion and growth of harmful bacteria in the digestive system.

Lactobacillus casei: produces lactic acid that can help promote growth of friendly microflora. It is commonly used to make cheddar cheese and other foods.

Bifidobacterium bifidum: is an intestinal bacteria that helps promote healthy digestive function.

Bifidobacterium longum: is found in the intestines and can help support healthy digestion and immune function.

Fructo-Oligosaccharide (FOS): promotes friendly bacteria growth and adhesion while inhibiting growth of pathogenic bacteria.

Companion Supplement: GI Cleansing Formula.

Protective Softgels

Combine the power of Protective Blend with black pepper, oregano, and melissa essential oils to help support the immune system.

Suggested Key Ingredients:

Orange Essential Oil: is calming, uplifting, and antiseptic.

Clove Bud Essential Oil: is antibacterial, antiseptic, and may influence healing.

Black Pepper Essential Oil: has antiseptic, anticatarrhal, and expectorant properties. It may help with respiratory ailments and with promoting blood flow and circulation.

Cinnamon Bark Essential Oil: is antibacterial and antimicrobial. It also enhances the action and activity of other oils.

***Eucalyptus radiata* Essential Oil:** is analgesic, antibacterial, and anti-infectious.

Oregano Essential Oil: has strong antibacterial, antifungal, and antiviral properties and is often used to help support the immune system against respiratory ailments.

Rosemary Essential Oil: is anti-infectious, analgesic, antibacterial, anti-inflammatory, anticatarrhal, and supportive of the respiratory system.

Melissa Essential Oil: is known for its antiviral properties and is often used to support the body against respiratory ailments.

Companion Supplement, Blend, and Personal Care: Protective Hand Wash, Protective Throat Drops, Protective Blend.

Protective Throat Drops

These drops offer the relief of a throat drop, soothing dry and scratchy throats, combined with the immune-protectant power of the essential oils that make up the Protective Blend.

Suggested Key Ingredients:

Orange Essential Oil: is calming, uplifting, and antiseptic.

Clove Bud Essential Oil: is antibacterial, antiseptic, and may influence healing.

Cinnamon Bark Essential Oil: is antibacterial and antimicrobial. It also enhances the action and activity of other oils.

***Eucalyptus radiata* Essential Oil:** is analgesic, antibacterial, and anti-infectious.

Rosemary Essential Oil: is anti-infectious, analgesic, antibacterial, anti-inflammatory, anticatarrhal, and supportive of the respiratory system.

Myrrh Essential Oil: is anti-infectious, anti-inflammatory, antiseptic, and combats coughs and sore throats.

Companion Personal Care and Blend: Protective Hand Wash, Protective Toothpaste, Protective Blend.

Respiratory Lozenge Drops

These drops combine many essential oils that are often used and studied for their abilities to help support the respiratory system.

Suggested Key Ingredients:

Lemon Essential Oil: has antiseptic properties and may help alleviate symptoms related to asthma and colds. A lemon-based spray has also been studied for its abilities to help alleviate immunological reactions related to rhinitis (Ferrara et al., 2012).

Peppermint Essential Oil: is often used for its anti-inflammatory and decongestant properties. It may help alleviate rhinitis, asthma, and other respiratory conditions.

***Eucalyptus radiata* Essential Oil:** may have a profound antiviral effect upon the respiratory system. It may also help reduce inflammation of the nasal mucous membrane.

Thyme Essential Oil: has strong antibacterial and antifungal properties and is often used for asthma, bronchitis, croup, and other respiratory issues.

Melissa Essential Oil: has strong antiviral properties and is often used to help with asthma, chronic coughs, and colds.

Cardamom Essential Oil: has antiseptic and anti-inflammatory properties. It may also help with congestion and other respiratory problems.

Companion Blend: Respiratory Blend.

Seasonal Blend Softgels

These softgels combine three powerful essential oils that have been studied for their abilities to help the body respond appropriately to symptoms related to seasonal allergies.

Suggested Key Ingredients:

Lemon Essential Oil: has antiseptic properties and may help alleviate symptoms related to asthma and colds. A lemon-based spray has also been studied for its abilities to help alleviate immunological reactions related to rhinitis (Ferrara et al., 2012).

Lavender Essential Oil: is anti-inflammatory and analgesic. It has been studied for its abilities to help alleviate allergic reactions (Kim et al., 1999; Ueno-Lio et al., 2014).

Peppermint Essential Oil: is often used for its anti-inflammatory and decongestant properties. It may help alleviate rhinitis, asthma, and other respiratory conditions.

Companion Blend: Respiratory Blend.

Soothing Polyphenol Complex

Like the Soothing Blend, this polyphenol nutritional supplement provides natural support for aching muscles, sore joints, and other occasional discomforts. The polyphenols, found in green tea, resveratrol, grape juice, and pomegranate juice, provide antioxidant power.

Suggested Key Ingredients:

Frankincense (*Boswellia serrata*) Gum Resin Extract: has long been used for its soothing properties. Frankincense is often used to help support the body's response to cancer and other cellular diseases. Boswellic acids, found in frankincense, have been studied for years for their strong anti-inflammatory properties (Ammon, 2002., Banno et al., 2006., and Gayathri et al., 2007) as well as for their potential to support joint health and to help prevent arthritis (Roy et al., 2006 and Goel et al., 2010).

Turmeric Root Extract (Curcumin): Curcumin is a polyphenol found in turmeric root (a spice commonly used in curry). In recent studies, curcumin was found to prevent and bind amyloid-beta plaques (Yang et al., 2005) and to reduce oxidative stress and DNA damage caused by amyloid-beta in neuronal cells (Park et al., 2008). Amyloid-beta, and its accumulation in the brain in plaque form, has been hypothesized as a possible cause of Alzheimer's disease.

Green Tea Leaf Extract: has been found to protect bone marrow cells from chromosome aberrations (Ito et al., 1989). Green tea may also decrease the risk of cardiovascular disease and some forms of cancer (Cabrera et al., 2006).

Pomegranate (*Punica granatum*) Fruit Extract: Ellagic acid is found in raspberries, pomegranates, walnuts, and other fruits and vegetables. This well-researched polyphenol has been studied for its ability to prevent low-density lipoprotein (LDL) oxidation (a known risk factor for cardiovascular disease) (Anderson et al, 2001 and Chang et al, 2008) and atherosclerotic lesions (Yu et al, 2005), which ability could help prevent atherosclerosis.

Grape (*Vitis vinifera*) Seed Extract: Proanthocyanidins extracted from grape seeds were found in one recent study to significantly decrease oxidized LDL in people with high cholesterol (Bagchi et al, 2003).

Resveratrol (from *Polygonum cuspidatum* Extract): is a polyphenol created by plants in a defensive response to bacteria or fungi. In addition to its antioxidant properties (Chakraborty et al, 2008), resveratrol has also been studied for its ability to inhibit skin (Jang et al, 1997) and leukemia (Lee et al, 2005) cancer cell growth and to improve mitochondrial function in cells (Lagouge et al, 2006).

Tummy Taming Blend: An herbal blend with peppermint leaf, ginger root extract, and caraway seed to help keep the stomach calm.

Companion Blend: Soothing Blend.

Trim Shakes

Choose a high-fiber, high-protein meal alternative drink powder with a low glycemic index and low calories. These shakes should contain extracts from the ashwagandha plant (*Withania somnifera*) that have shown potential to decrease blood serum levels of cortisol (Abedon, 2008) and to reduce stress (Archana et al., 1999 and Bhattacharya et al., 1987). Cortisol—a hormone created by the adrenal glands—is released into the blood as the result of stress or anxiety, and it also plays a role in the body's sleep/wake cycle. When an individual is exposed to constant or chronic stress, levels of cortisol remain elevated in the body, disrupting the body's ability to relax and its ability to sleep naturally. Chronic stress and abnormally-elevated cortisol levels have also been associated with increased cravings and with increased levels of obesity and abdominal weight (De Vriendt et al., 2009 and Wallerius et al., 2003).

Suggested Key Ingredients:

Protein Blend: A blend of whey, pea, and rice proteins that helps support the body's protein needs—which is critical during exercise and dieting to help maintain and build lean body tissues such as muscle (Walker et al., 2010).

Potato Protein Extract: contains a high level of natural proteins, including the protease inhibitor PI-2. PI-2 has been shown to inhibit the digestive enzyme trypsin (Pouvreau et al., 2001). Trypsin inhibitors such as PI-2, have been studied for their ability to induce feelings of fullness by prolonging the secretion of the hormone cholycystokinin, which acts to promote feelings of satiation (Marinangeli et al., 2012).

Fiber Blend: contains a mixture of insoluble fiber and prebiotic soluble fiber that can help promote beneficial GI tract bacteria function and elimination. These dietary fibers include maltodextrin, guar gum, and oligofructose.

Ashwagandha (*Withania somnifera*) Root and Leaf Extracts: have demonstrated a potential to help reduce stress (Archana et al., 1999 and Bhattacharya et al., 1987) and to help lower blood serum cortisol levels (Abedon, 2008). Cortisol—a hormone created by the adrenal glands—is released into the blood as the result of stress or anxiety, and it also plays a role in the body's sleep/wake cycle. When an individual is exposed to constant or chronic stress, levels of cortisol remain elevated in the body, disrupting the body's ability to relax and its ability to sleep naturally. Chronic stress and abnormally-elevated cortisol levels have also been associated with increased cravings and with increased levels of obesity and abdominal weight (De Vriendt et al., 2009 and Wallerius et al., 2003).

Vitamins and Minerals: include nutrients that have been shown to support cellular energy levels and muscle and bone health. Key vitamins and minerals are listed below:

Calcium (dicalcium phosphate): helps support bone density and muscle contraction.

Magnesium (magnesium oxide): supports ATP production and use for energy.

Vitamin C (ascorbic acid): is antioxidant and supports blood vessel and cartilage health.

Vitamin E (vitamin E acetate): is antioxidant.

Vitamin B7 (biotin): helps support metabolism of fats and aerobic energy generation.

Vitamin B3 (niacinamide): helps support cellular energy creation.

Iodine (potassium iodide): plays a role in two important thyroid hormones.

Zinc (zinc oxide): is an important component in many critical cellular enzymes and proteins.

Vitamin A (vitamin A acetate): plays a role in vision, skin health, and DNA transcription.

Copper (copper gluconate): is found in several enzymes, including superoxide dismutase.

Vitamin B5 (D-calcium pantothenate): plays a role in the metabolism of fatty acids.

Vitamin D3: plays an important role in bone health and strength.

Vitamin B6 (pyridoxine hydrochloride): is important in the creation of enzymes that aid in the creation of energy.

Vitamin B2 (riboflavin): plays an important role in the creation of energy from lipids (fat) and carbohydrates in the cell.

Vitamin B1 (thiamine mononitrate): plays a critical role in generating energy from carbohydrates within the cell.

Vitamin B12: plays a key role in the synthesis of DNA and in nerve cell protection.

Folic acid: is a critical nutrient for the creation of DNA and RNA in cells.

Stevia: is a natural herb with a very sweet taste (said to be many times sweeter than sugar). This naturally-sweet herb has been found in at least one study to increase glucose tolerance while decreasing plasma glucose levels in normal volunteers (Curi et al., 1986).

Companion Products: Daily Supplements Pack, Digestive Enzyme Complex, Detoxification Complex, Detoxification Blend.

Vegan Essential Oil Omega Complex

This supplement is a vegan-friendly blend of essential fatty acids that is particularly high in beneficial omega-3 fatty acids. It also includes the potent antioxidant astaxanthin and a unique essential oil blend that helps enhance the benefits of the essential fatty acids.

Suggested Key Ingredients:

Algae Oil (DHA): Docosahexaenoic acid (or DHA) is an omega-3 fatty acid that is found in high concentrations in the brain and in the retina of the eye, where it is part of several important phospholipids. DHA has also been studied for its ability to help inhibit colon (Kato et al., 2002) and prostate (Shaikh et al., 2008) cancer cells.

Flaxseed Oil (ALA): Alpha-linolenic acid, or ALA, is an omega-3 fatty acid that is readily able to be synthesized into DHA or EPA by the human body. Eicosapentaenoic acid (or EPA) is another omega-3 fatty acid. It is largely known for its anti-inflammatory benefits but has also been found in several studies to help individuals suffering from depression (Su et al., 2008, Osher et al., 2005, Lucas et al., 2009 and Frangou et al., 2006). There is strong evidence that EPA and DHA together can help with high blood pressure (Erkkila et al., 2008, Mori et al., 1999 and Morris et al., 1993) and cardiovascular disease (Erkkila et al., 2004 and Bucher et al., 2002), especially in high-risk individuals. When taken together by pregnant women, EPA and DHA have also been found to have beneficial effects on these women's children, such as reduced allergies (Furuhjelm et al., 2009 and Dunstan et al., 2003) and improved neurological development (Helland et al., 2003).

Inca Inchi Seed Oil (ALA): Inca inchi (or sacha inchi) seeds come from a star-shaped fruit native to the Amazonian forests of Peru. The seeds have a naturally high content of the omega-3 fatty acid, ALA.

Astaxanthin: Astaxanthin is a natural carotenoid that can be found in many marine plants (and in the animals that eat these plants), but it is found in the most abundance in marine algae. This dark, red-colored carotenoid pigment has been well studied for its potent antioxidant abilities (Palozza et al., 1992 and Naguib et al., 2000) and has demonstrated a unique potential to cross the blood-brain barrier in mammals, making it a prime candidate for treating diseases of the central nervous system caused by oxidative damage (Tso et al., 1994).

Lutein: Lutein is created in many plants as an antioxidant and a light absorber. In humans, lutein is found in high concentration in the macula, the area of the eye where central vision occurs. Lutein supplementation has been found in at least one study to improve the visual acuity and macular pigment optical density in patients with age-related macular degeneration (Richer et al., 2004).

Lycopene: is a red-colored pigment found in many red plants. It has been studied for its potential role in reducing the risk of prostate cancer (Giovannucci et al, 2002).

Zeaxanthin: is a carotenoid pigment found in many plants such as corn and wolfberries. It has been studied for its antioxidant abilities.

Alpha & Beta Carotene: Vitamin A (alpha and beta carotene) plays a role in vision, skin health, and DNA transcription.

Borage Seed Oil (GLA): Borage seed oil has one of the highest contents of the omega-6 fatty acid gamma-linolenic acid. GLA has been studied for its ability to aid with dermatitis (Senapati et al., 2008 and Kanehara et al., 2007) and other skin conditions (De Spirt et al., 2009 and Chen et al., 2006).

Cranberry Seed Oil (ALA): In addition to being high in alpha-linolenic acid, cranberry seed oil is also high in vitamin E, a potent antioxidant.

Pomegranate Seed Oil (CLNA): 9cis, 11trans, 13cis-conjugated linolenic acid (or punicic acid) is a conjugated linolenic acid (CLNA) that is found in pomegranate seed oil. This isomer of linolenic acid has been studied for its antioxidant (Saha et al., 2009) and anti-inflammatory (Boussetta et al., 2009) properties.

Pumpkin Seed Oil: Pumpkin seed oil is rich in several essential fatty acids and has been studied for its potential to improve HDL cholesterol levels (Gossell-Williams et al., 2011).

Grape Seed Oil: Grape seed oil contains high levels of the essential fatty acid linoleic acid.

Vitamin D (cholecalciferol): plays an important role in bone health and strength and helps modulate hormone secretion and immune function.

Vitamin E (d-alpha & mixed tocopherols): is a potent antioxidant and may play a role in cellular communication.

Clove Bud Essential Oil: is highly antioxidant as well as anti-inflammatory. It may also help relieve pain and skin problems.

Frankincense Essential Oil: is an immune stimulant and is anti-inflammatory. It may also help with blood pressure and depression.

Thyme Essential Oil: Thymol in thyme is highly antioxidant. Thyme oil may help with depression and fatigue.

Cumin Essential Oil: is a digestive aid and may help with indigestion and flatulence.

Orange Essential Oil: aids the digestive system and may help with indigestion and diarrhea.

Peppermint Essential Oil: is anti-inflammatory and antispasmodic. It may help with intestinal cramping and spasms as well as with feelings of nausea.

Ginger Essential Oil: is calming to the digestive system. It may help alleviate feelings of nausea and indigestion.

Caraway Seed Essential Oil: is antispasmodic and antiparasitic. It may also help with indigestion and diarrhea and may be calming to the intestinal muscles.

German Chamomile Essential Oil: is anti-inflammatory and aids the digestive system. It may also aid liver function and help alleviate gastritis.

Companion Supplements: Cellular Vitality Complex, Food Nutrient Complex.

Vegan Trim Shake

Vegan Trim Shake has the same high fiber and high protein content, the ashwagandha root and leaf extracts, and the potato protein extracts found in the regular Trim Shakes—but with natural, vegan-friendly options.

Suggested Key Ingredients:

Protein Blend: a blend of pea, quinoa, and amaranth proteins that helps support the body's protein needs—which is critical during exercise and dieting to help maintain and build lean body tissues such as muscle (Walker et al., 2010).

Potato Protein Extract: contains a high level of natural proteins, including the protease inhibitor PI-2. PI-2 has been shown to inhibit the digestive enzyme trypsin (Pouvreau et al., 2001). Trypsin inhibitors such as PI-2, have been studied for their ability to induce feelings of fullness by prolonging the secretion of the hormone cholecystokinin, which acts to promote feelings of satiation (Marinangeli et al., 2012).

Fiber Blend: contains a mixture of insoluble fiber and prebiotic soluble fiber that can help promote beneficial GI tract bacteria function and elimination. These dietary fibers include soluble corn fiber, xanthan gum, citrus fiber, and tara gum.

Ashwagandha (*Withania somnifera*) Root and Leaf Extracts: have demonstrated a potential to help reduce stress (Archana et al., 1999 and Bhattacharya et al., 1987) and to help lower blood serum cortisol levels (Abedon, 2008). Cortisol—a hormone created by the adrenal glands—is released into the blood as the result of stress or anxiety, and it also plays a role in the body's sleep/wake cycle. When an individual is exposed to constant or chronic stress, levels of cortisol remain elevated in the body, disrupting the body's ability to relax and its ability to sleep naturally. Chronic stress and abnormally-elevated cortisol levels have also been associated with increased cravings and with increased levels of obesity and abdominal weight (De Vriendt et al., 2009 and Wallerius et al., 2003).

Stevia: is a natural herb with a very sweet taste (said to be many times sweeter than sugar). This naturally-sweet herb has been found in at least one study to increase glucose tolerance while decreasing plasma glucose levels in normal volunteers (Curi et al., 1986).

Companion Supplements: Trim Shake, Daily Supplements Pack, Digestive Enzyme Complex, Detoxification Complex, Detoxification Blend.

Essential Living & Spa

Essential Living and Spa

This section contains examples of various types of essential oil–inspired personal care and spa formulations that may be available commercially as well as examples of suggested key ingredients that each type of product may contain. See the Single Oils and the Oil Blends sections of this book for more information on the single essential oil and blend suggestions indicated here.

Anti-Aging Moisturizer

Anti-Aging Moisturizer combines several ingredients that have been studied for their abilities to combat many of the visible signs of aging by reducing wrinkles and fine lines and improving skin elasticity and tone.

Suggested Key Ingredients:

Lavender Essential Oil: is calming and balances the body wherever there is a need.

Jasmine Essential Oil: is uplifting to the emotions and helps reduce anxiety, apathy, and depression.

Geranium Essential Oil: is hydrating and helps to ease nervous tension and stress.

Frankincense Essential Oil: helps repair cells and reduce signs of aging.

Palmitoyl Oligopeptides and Tetrapeptide-7 (Matrikine Messaging): The space in between skin (and other tissue) cells is filled with water and a mixture of fibrous proteins and polysaccharides called the extracellular matrix. These proteins and polysaccharides help give skin tissue its strength and elasticity and provide a framework for new cell growth and migration. Examples of extracellular proteins commonly found in skin tissue include collagen (provides strength, volume, and rigidity) and elastin (provides flexibility and resilience).

Enzymes on the outside of the cell membranes have the ability to break down some of these extracellular proteins into smaller peptide units when activated. Some of these smaller peptide units, in turn, have the ability to send further signals to surrounding cells to start, or turn off, the creation of new proteins and other structures. These small peptide messengers are called matrikines (Maquart et al., 1999).

Studies have shown that certain matrikines, such as the tripeptide glycyl-histidyl-lysine (GHK), have the ability to activate and regulate synthesis of extracellular matrix proteins[1], while others can help stimulate the creation of an extracellular matrix framework that facilitates new cell growth and the healing of skin wounds (Siméon et al., 1999 and Tran et al., 2004).

With aging, extracellular proteins and fibers begin to break down, and synthesis of new structures is limited. Because of this loss of proteins and other structures in the extracellular matrix, the skin begins to lose its rigidity, structure, resilience, and elasticity, resulting in the appearance of fine lines and wrinkles.

In vitro studies and limited clinical trials have demonstrated evidence that palmitoylated matrikines may have the ability to activate synthesis of extracellular matrix structures, such as collagen, fibronectin, and hyaluronic acid, that can lead to a fuller, tighter skin structure and can reduce the appearance of fine lines and wrinkles.

Sodium Hyaluronate (Patented Hyaluronic Acid Spherulites): Hyaluronic acid (also called hyaluronan, or hyaluronate) is not a true acid but is actually a special type of polysaccharide structure (called a glycosaminoglycan) that can form huge molecular chains that have the ability to absorb and hold water. Hyaluronic acid is found in large amounts in the extracellular matrix, where it helps provide structure and may help regulate transport of macromolecules between the cells. It is also found in the joints, where its viscous properties allow it to be used to cushion and lubricate the joint (Laurent et al., 1995).

Hyaluronic acid is also found in high concentrations in the skin tissue, where it helps provide structure, support, and turgidity in the skin. Researchers in Italy have found that hyaluronic acid content in the skin decreases with aging and is nearly absent in the skin of individuals over 60-years-old (Ghersetich et al., 1994). This decline in hyaluronic acid has been hypothesized to be one of the main causes of skin issues related to aging.

Because of hyaluronic acid's unique ability to absorb water—causing it to swell to many times its original size—it has been used for years as an injectable cosmetic treatment for increasing volume in the skin in problem areas to reduce wrinkles and also for increasing volume in the lips and other areas. The unique formulation of the patented hyaluronic acid spherulites, however, actually allows these spherulites to naturally penetrate the outer layers of the skin without the need for invasive injections. These spherulites can then absorb water, allowing them to increase the volume of the skin and also to help improve the moisture-barrier functionality of the skin so it can stay hydrated.

Grapeseed Oil: has an extremely high content of the omega-6 fatty acid, linoleic acid. Both animal studies (Darmstadt et al., 2002) and clinical trials (Darmstadt et al., 2005) have found that application of an oil high in linoleic acid can help enhance the skin-moisture barrier. Linoleic acid has also been studied for its ability to reduce acne microcomedones (Letawe et al., 1998) and to enhance cellular migration during wound healing (Ruthig et al., 1999).

Summer Snowflake Bulb Extract: Many plants and animals enter a dormant stage, where they cease many metabolic activities in order to conserve energy and resources during times of harsh environmental conditions, such as drought or freezing temperatures. This dormancy allows the plant or animal to survive these harsh conditions and continue to live longer than it would otherwise be able.

Over the past several decades, researchers have begun to discover that several substances available in the dormant parts of plants—such as within the bulb—demonstrate an ability to prevent cell growth and cell division in human tissues as well (Ceriotti et al., 1967 and Jimenez et al., 1976). This can be important for skin health, as researchers have found that human cells appear to only have the ability to replicate a certain number of times, and that as they approach their limit, the cells becomes less functional (Hayflick, 1979). Because of this limitation, it has been theorized that slowing the process of cell replication can slow the process of loss of cell function associated with aging.

An extract from the bulbs of dormant Summer Snowflake flowers (Leucojum Aestivum) has shown promising potential to slow replication of skin fibroblast cells, as well as the ability to increase the activity of a potent antioxidant—mitochondrial superoxide dismutase. Both of these abilities may help promote more youthful skin cell function.

Acetyl Octapeptide-3 (Proprietary Octapeptide): Around the eyes and forehead, fine lines and wrinkles are often the result of tense, contracting muscle fibers repeatedly pulling the skin into folds and creases (often called frown lines).

Muscle fiber contraction is dependent on a complex signaling process from the motor neurons of nerve cells. Within each motor neuron are small, round structures called synaptic vesicles that each contain many copies of the signaling molecule, acetylcholine. When stimulated, a protein on the synaptic vesicle wall called VAMP (vesicle-associated membrane protein) will bind with two proteins on the motor neuron cell membrane called syntaxin (or T-SNARE) and SNAP25. When these proteins bind together, the synaptic vesicle is pulled in close to the motor neuron cell membrane, and the synaptic vesicle fuses with the neuron cell membrane, opening the vesicle and releasing the acetylcholine outside of the cell. The acetylcholine then binds with a protein receptor on the cell membrane of surrounding muscle fiber cells, signaling to them to contract (Südhof, 1995, Kee et al., 1995 and Pevsner et al., 1994).

The biomimetic peptide, Acetyl Octapeptide-3, mimics the part of the SNAP25 protein that binds with the VAMP protein on the synaptic vesicle. Because this proprietary peptide temporarily binds with the VAMP protein, the VAMP protein is blocked from being able to bind with the proteins that allow the synaptic vesicles to release acetylcholine into the extracellular matrix. This results in the muscle fibers remaining more relaxed, preventing them from pulling the skin around the eyes and forehead into the distinctive lines and wrinkles associated with aging.

Vitamin Blend: This type of vitamin blend should include tocopherol acetate (Vitamin E—antioxidant and cellular communication) and tetrahexyldecyl ascorbate (stabilized vitamin C—provides stability to collagen).

Companion Formulations: Facial Cleanser, Invigorating Scrub, Skin Toner, Skin Serum, Anti-Aging Blend, Youthful Hydrating Serum, Youthful Moisturizing Lotion, Youthful Skin Cleanser, Youthful Skin Toner.

Calming Bath Bar

This soothing soap combines the skin protecting abilities of sunflower, safflower, palm, coconut, and jojoba oils with the moisturizing properties of shea butter and the calming aroma of Calming Blend.

Suggested Key Ingredients:

Calming Oil Blend: combines essential oils that are widely known—and have been studied—for their abilities to calm and soothe feelings of stress and anxiety in order to help the body maintain its natural state of health. This blend contains lavender, sweet marjoram, Roman chamomile, ylang ylang, and sandalwood oils blended with the soothing aroma of vanilla beans.

Butyrospermum parkii **(Shea) Butter:** is widely used in soaps, lotions, and creams for its natural moisturizing properties.

Sodium Cocoate (Saponified Coconut Oil): is the soap form of coconut oil (saponification is the process of transforming oils into soap). Coconut oil is often used in soaps, creams, and lotions for its moisturizing and skin-softening abilities.

Sodium Safflowerate (Saponified Safflower Oil): is the soap form of safflower oil. Safflower oil is known for its skin softening properties.

Companion Formulations: Skin Care products.

Essential Ointment

This all natural ointment harnesses the healing power of essential oils to help soothe skin irritations and enhance the natural process of healing.

Suggested Key Ingredients:

Frankincense Essential Oil: prevents scarring, supports the immune system, and speeds the healing of wounds.

Helichrysum Essential Oil: can be used on a fresh wound to help stop bleeding. Research has shown that Helichrysum has antibacterial, antiviral, and antioxidant properties (Chinou et al., 1996; Nostro et al., 2001; Appendino et al., 2007; Nostro et al., 2003; Rosa et al., 2007).

Melaleuca Essential Oil: is antimicrobial and can be used on a wound to help fight infection. Melaleuca oil has anti-inflammatory properties, including the ability to reduce swelling and alter the secretion of chemical messengers involved in the inflammatory response (Brand et al., 2002; Caldefie-Chézet et al., 2006; Hart et al., 2000).

Cedarwood Essential Oil: is anti-inflammatory (Tumen et al., 2013). Cedarwood oil is also calming and relieves tension.

Lavender Essential Oil: is well known for its ability to help decrease pain (Ghelardini et al., 1999; Olapour et al., 2013). This oil can also be used to decrease anxiety, stress, and inflammation.

Bisabolol: is a main chemical constituent of German chamomile essential oil. Recent studies have found that bisabolol may be used to treat skin inflammation and reduce sensitivity to pain (Maurya et al., 2014; Rocha et al., 2011).

Jojoba Oil: Although called an oil, jojoba oil is actually a natural liquid wax extracted from jojoba (*Simmondsia chinensis*) plants found in the south-western U.S. and northern Mexico. This liquid wax closely resembles the skin's natural oils (or sebum) allowing it to provide increased hydration to the skin.

Phellodendron Amurense Bark Extract: is a fundamental herb used in traditional Chinese medicine. Modern research has shown that this extract possesses anti-inflammatory properties *in vitro* and *in vivo* (Choi et al., 2014).

Facial Cleanser

This Facial Cleanser includes several ingredients that work to gently cleanse the face while leaving the skin feeling soft, smooth, and fresh.

Suggested Key Ingredients:

Melaleuca Essential Oil: promotes cleansing and purity.

Peppermint Essential Oil: is purifying and stimulating to the conscious mind.

Cruciferous Vegetable Extracts: Plants in the Brassicaceae (or Cruciferae) family, such as broccoli, cabbage, and brussels sprouts, have extremely high concentrations of substances called isothiocyanates. Isothiocyanates, such as sulforaphane and phenethyl isothiocyanate, have been studied for years for their potential anti-inflammatory (Traka et al., 2008), antioxidant (Fowke et al., 2006), and anticancer (Ambrosone et al., 2004, Navarro et al., 2009, vanPoppel et al., 1999 and Xiao et al., 2010) properties. A strong association has been found between cruciferous vegetable consumption and decreased risk of cancer in individuals of a certain genotype, due to the ability of isothiocyanates to increase the action of glutathione s-transferase (an enzyme that detoxifies carcinogens) (Moore et al., 2007, Moy et al., 2009 and Navarro et al., 2009).

The isothiocyanates suggested for this formulation have been extracted from seven different cruciferous vegetable plant sprouts. This specific combination of isothiocyanates has also shown promising UVB protection in tests, indicating that it has the potential to decrease redness and damage in skin exposed to the UVB rays found in sunlight.

Vitamin Blend: A vitamin blend of this type would provide nutrients essential for healthy skin cell function. Some of the vitamins it might include are tocopherol acetate (Vitamin E—antioxidant and cellular communication), tetrahexyldecyl ascorbate (stabilized vitamin C—provides stability to collagen), Retinyl palmitate (Vitamin A palmitate—supports skin cell health), and D-panthenol triacetate (provitamin B5—may decrease skin irritation and pore size (Kuo et al., 2007 and Leung, 1995).

Companion Formulations: Hydrating Cream, Invigorating Scrub, Skin Toner, Skin Serum.

Hair Glaze

Hair Glaze combines several ingredients that have been studied for their abilities to provide a heat-activated flexible hold for hair without chemical build up, while helping to protect and strengthen the hair on the molecular level.

Suggested Key Ingredients:

Lavender Essential Oil: helps nourish the scalp and hair follicles. Medicinally, it has been used by the French to prevent hair loss.

Peppermint Essential Oil: is invigorating and helps improve the overall health of the scalp and hair.

Marjoram Essential Oil: has antiseptic properties and helps soothe the skin and muscles.

Cedarwood Essential Oil: is purifying and has properties beneficial to healthy scalp and hair growth.

Lavandin Essential Oil: has antifungal and anti-inflammatory properties and can help soothe itching and other skin discomforts.

Rosemary Essential Oil: has antioxidant properties and has shown potential for helping to alleviate dandruff and promote healthy hair growth.

Niaouli (*Melaleuca quinquenervia*) Essential Oil: has powerful antifungal and anti-inflammatory properties and may help protect against UV damage.

Eucalyptus (*E. globulus*) Essential Oil: has antiseptic and anti-inflammatory properties. It is stimulating to the tissues and helps purify.

Tangerine Essential Oil: is anti-inflammatory and has a soothing citrus aroma.

Companion Formulations: Smoothing Conditioner, Protecting Shampoo, Hair Serum.

Hair Serum

Hair Serum combines beneficial essential oils with Moroccan argan oil to nourish, protect, moisturize, and revitalize the hair and scalp.

Suggested Key Ingredients:

Argan (*Argania spinosa*) Oil: is pressed from the kernels of the Moroccan argan tree. This light oil has an extremely high antioxidant capacity (Cabrera-Vique et al., 2012), with high levels of the antioxidant γ-tocopherol (vitamin E) (Charrouf et al., 2010) and the essential fatty acids linoleic acid and oleic acid (Khallouki et al., 2003). Argan oil also contains squalene (Monfalouti et al., 2010)—a substance produced naturally by the skin cells to help keep skin and hair moisturized and protected—and is rich in polyphenols and coenzyme Q_{10} (CoQ_{10}) (Venegas et al., 2011).

Lavender Essential Oil: helps nourish the scalp and hair follicles. Medicinally, it has been used by the French to prevent hair loss.

Peppermint Essential Oil: is invigorating and helps improve the overall health of the scalp and hair.

Marjoram Essential Oil: has antiseptic properties and helps soothe the skin and muscles.

Cedarwood Essential Oil: is purifying and has properties beneficial to healthy scalp and hair growth.

Lavandin Essential Oil: has antifungal and anti-inflammatory properties and can help soothe itching and other skin discomforts.

Rosemary Essential Oil: has antioxidant properties and has shown potential for helping to alleviate dandruff and promote healthy hair growth.

Niaouli (*Melaleuca quinquenervia*) Essential Oil: has powerful antifungal and anti-inflammatory properties and may help protect against UV damage.

Eucalyptus (*E. globulus*) Essential Oil: has antiseptic and anti-inflammatory properties. It is stimulating to the tissues and helps purify.

Tangerine Essential Oil: is anti-inflammatory and has a soothing citrus aroma.

Companion Formulations: Smoothing Conditioner, Protecting Shampoo, Hair Glaze.

Hand & Body Lotion

This lotion blends several ingredients that have been studied for their unique moisturizing and skin-protecting abilities with natural, botanical ingredients. It should be formulated so that you can mix in your desired essential oil or blend to create your own custom lotion for many different uses.

Suggested Key Ingredients:

Cruciferous Vegetable Extracts: Plants in the Brassicaceae (or Cruciferae) family, such as broccoli, cabbage, and brussels sprouts, have extremely high concentrations of substances called isothiocyanates. Isothiocyanates, such as sulforaphane and phenethyl isothiocyanate, have been studied for years for their potential anti-inflammatory (Traka et al., 2008), antioxidant (Fowke et al., 2006), and anticancer (Ambrosone et al., 2004, Navarro et al., 2009, vanPoppel et al., 1999 and Xiao et al., 2010) properties. A strong association has been found between cruciferous vegetable consumption and a decreased risk of cancer in individuals of a certain genotype, due to the ability of isothiocyanates to increase the action of glutathione s-transferase (an enzyme that detoxifies carcinogens) (Moore et al., 2007, Moy et al., 2009 and Navarro et al., 2009).

The isothiocyanates suggested for this formulation have been extracted from seven different cruciferous vegetable plant sprouts. This specific combination of isothiocyanates has also shown promising UVB protection in tests, indicating that it has the potential to decrease redness and damage in skin exposed to the UVB rays found in sunlight.

***Chlorella vulgaris* (Green Algae) Extract:** *Chlorella vulgaris* is a common green algae that is high in essential amino acids that are the building blocks of cellular proteins vital for skin tone and elasticity. Extracts of *Chlorella vulgaris* have also been studied for their abilities to inhibit inflammation (Yasukawa et al., 1996) and skin papilloma tumor formation (Singh et al., 1999).

Dipotassium Glycyrrhizate (Licorice Root Extract): is often used for its skin soothing and skin conditioning properties. Its related licorice root extract— glycyrrhizin—has also been studied extensively for its anti-inflammatory properties.

***Olea Europea* (Olive) Fruit Unsaponifiables:** contains many of the same natural compounds found in sebum—the substance secreted by the skin that helps provide protection and moisture retention for the skin's cells.

Vitamin C (Tetrahexyldecyl Ascorbate): has natural antioxidant properties and helps support collagen stability (the main protein in connective tissue).

Vitamin E (Tocopheryl Acetate): is a potent antioxidant.

Companion Formulations: Skin Care products

Hydrating Cream

Hydrating Cream combines essential oils known for their abilities to soothe and balance the skin's natural moisture levels with a complex of signaling molecules that have been studied for their abilities to help promote the production of collagen and other intracellular matrix proteins that are crucial for fuller, smoother-appearing skin.

Suggested Key Ingredients:

Lavender Essential Oil: has been studied for its ability to reduce inflammation and allergic reactions in the skin. It has also been used to help the skin recover from burns, blisters, infections, and other injuries and to help reduce conditions related to dry skin.

Geranium Essential Oil: is soothing to the skin and may help to balance the skin's level of sebum (a fatty, waxy substance secreted by the skin that helps the skin feel moist and supple).

Frankincense Essential Oil: has been studied for its anti-inflammatory and anti-infectious properties. Frankincense is also soothing to the skin and nerves.

Jasmine Essential Oil: is often used to help soothe dry, irritated, or sensitive skin.

Milk Peptide Complex™: is a matrix of signalling molecules derived from milk proteins. These molecules, such as transforming growth factor-beta (TGF beta), signal the cells to produce extracellular matrix proteins such as collagen and fibronectin (Varga et al., 1986 and Raghow et al., 1987), which can help promote fuller, smoother-looking skin.

***Theobroma cacao* (Cocoa) Seed Butter:** is extracted from dried cocoa beans and is widely used for its ability to help moisturize the skin.

Companion Formulations: Invigorating Scrub, Facial Cleanser, Skin Toner, Skin Serum.

Invigorating Bath Bar

This invigorating soap combines the skin protecting abilities of sunflower, safflower, palm, coconut, and jojoba oils with naturally exfoliating oatmeal kernels and the stimulating aroma of Invigorating Blend.

Suggested Key Ingredients:

Invigorating Oil Blend: combines the uplifting and stress-reducing benefits of many different citrus oils in a sweetly satisfying way. In addition to their elevating properties, many of the oils in this blend have been studied for their ability to cleanse and disinfect. This blend contains orange, lemon, grapefruit, mandarin, bergamot, tangerine, and clementine essential oils blended with the soothing aroma of vanilla beans.

Oatmeal (*Avena sativa*) Kernel: is widely used for its gentle exfoliating and skin soothing properties.

Sodium Cocoate (Saponified Coconut Oil): is the soap form of coconut oil (saponification is the process of transforming oils into soap). Coconut oil is often used in soaps, creams, and lotions for its moisturizing and skin-softening abilities.

Sodium Safflowerate (Saponified Safflower Oil): is the soap form of safflower oil. Safflower oil is known for its skin softening properties.

Companion Formulations: Essential Skin Care.

Invigorating Blend Hand & Body Lotion

This lotion offers the same natural benefits of the regular Hand & Body Lotion, plus the added benefits of the Invigorating Blend.

Suggested Key Ingredients:

Invigorating Essential Oil Blend: This blend contains essential oils of orange, lemon, grapefruit, mandarin, bergamot, tangerine, and clementine with vanilla bean extract. The oils contained in this blend have been studied for their abilities to calm and soothe tension, and also for their ability to cleanse and disinfect.

See Hand and Body Lotion for other suggested ingredients and research.

Invigorating Scrub

Invigorating Scrub combines fragrant and nourishing essential oils, vegetable extracts, and other natural incredients known for their ability to exfoliate and polish skin.

Suggested Key Ingredients:

Grapefruit Essential Oil: is balancing and uplifting to the mind. It is antiseptic, disinfectant, and astringent.

Peppermint Essential Oil: is cooling and stimulating. It is antibacterial and invigorating.

Jojoba Beads (Hydrogenated Jojoba Oil): Although called an oil, jojoba oil is actually a natural liquid wax extracted from jojoba (*Simmondsia chinensis*) plants found in the south-western U.S. and northern Mexico. This liquid wax closely resembles the skin's natural oils (or sebum). Hydrogenating jojoba oil (by combining this liquid wax with pressurized hydrogen) solidifies the oil, allowing the creation of a waxy bead that can be used to gently and naturally exfoliate the skin.

***Ascophyllum nodosum* Extract (Brown Algae Extract):** *Ascophyllum nodosum* is a common brown seaweed found in the north Atlantic. This seaweed is rich in antioxidant polyphenols and also contains the polysaccharide fucoidan, which has been studied for its ability to inhibit the enzymes that break down collagen and elastin in the skin (Moon et al., 2009 and Senni et al., 2006).

This aqueous extract has also demonstrated an ability to inhibit the enzyme tyrosinase—an enzyme necessary for the production of the skin pigment melanin. This action may help decrease the appearance of pigmented spots on the skin, helping to promote a more even skin tone.

***Palmaria palmata* Extract (Red Algae Extract):** *Palmaria palmata* is a common red seaweed (often called dulse) found in the northern Atlantic and Pacific. This seaweed is rich in antioxidant polyphenols (Yuan et al., 2006).

Melanocytes are pigment-producing cells scattered throughout the bottom layer of the epidermis. These cells use several multi-step processes to convert tyrosine (an amino-acid building block) into the pigment melanin. Key in this process is the enzyme tyrosinase, which catalyses the first two steps of this conversion. Once the melanin is created, it is stored in vesicles that are transported to the ends of the melanocyte's dendritic arms. The melanin is stored there in these vesicles until the melanocyte is stimulated to release the melanin to the surrounding keratinocyte (epidermal skin) cells, where they are seen as pigmentation on the skin.

The aqueous extract from *Palmaria palmata* has demonstrated an ability to block the action of tyrosinase in melanocyte cells, inhibiting their ability to convert tyrosine into melanin, and an ability to inhibit synthesis of several proteins that transport the melanin to the dendritic arms of the melanocyte. Small clinical trials using this extract found that it demonstrated a potential to lighten skin pigmentation, especially in darker age spots (Boudier et al., 2008).

Cruciferous Vegetable Extracts: Plants in the Brassicaceae (or Cruciferae) family, such as broccoli, cabbage, and brussels sprouts, have extremely high concentrations of substances called isothiocyanates. Isothiocyanates, such as sulforaphane and phenethyl isothiocyanate, have been studied for years for their potential anti-inflammatory (Traka et al., 2008), antioxidant (Fowke et al., 2006), and anticancer (Ambrosone et al., 2004, Navarro et al., 2009, vanPoppel et al., 1999 and Xiao et al., 2010) properties. A strong association has been found between cruciferous vegetable consumption and decreased risk of cancer in individuals of a certain genotype, due to the ability of isothiocyanates to increase the action of glutathione s-transferase (an enzyme that detoxifies carcinogens) (Moore et al., 2007, Moy et al., 2009 and Navarro et al., 2009).

The isothiocyanates suggested for this formulation have been extracted from seven different cruciferous vegetable plant sprouts. This specific combination of isothiocyanates has also shown promising UVB protection in tests, indicating that it has the potential to decrease redness and damage in skin exposed to the UVB rays found in sunlight.

Vitamin Blend: This blend of vitamins provides nutrients essential for healthy skin cell function. It should include tocopherol acetate (Vitamin E—antioxidant and cellular communication), tetrahexyldecyl ascorbate (stabilized vitamin C—provides stability to collagen), Retinyl palmitate (Vitamin A palmitate—supports skin cell health), and D-panthenol triacetate (provitamin B5—may decrease skin irritation and pore size (Kuo et al., 2007 and Leung, 1995).

Companion Formulations: Facial Cleanser, Hydrating Cream, Skin Toner, Skin Serum.

Protective Cleaner

This natural cleaner combines the protective benefits of Protective Blend with plant-based ingredients to create a tough, yet safe and non-toxic, multi-purpose household cleaner.

Suggested Key Ingredients:

Protective Blend: contains orange, clove bud, cinnamon bark, *Eucalyptus radiata*, and rosemary essential oils. These oils have all been studied for their powerful antimicrobial and antiseptic properties.

Companion Supplements, Blends, and Formulations: Protective Hand Wash, Protective Throat Drops, Protective Laundry Detergent, Protective Blend.

Protective Hand Wash

Protective Hand Wash combines several essential oils into a healthy, all-natural hand soap that is gentle enough for even those with sensitive skin to use. It leaves hands feeling clean, soft, and fresh while it protects against harmful microorganisms.

Suggested Key Ingredients:

Sweet Orange Essential Oil: is calming and uplifting to the mind and body.

Clove Bud Essential Oil: is antibacterial, antiviral, and disinfectant.

Cinnamon Bark Essential Oil: is antibacterial and antimicrobial. It also enhances the action and activity of other oils.

Rosemary Oil: is antibacterial, stimulates memory, and opens the conscious mind.

Companion Formulations, Blends, and Supplements: Protective Throat Drops, Protective Toothpaste, Protective Blend.

Protective Laundry Detergent

This detergent combines the natural antiseptic properties of the oils contained in the Protective Blend with naturally-based surfactants, enzymes, and stabilizers.

Suggested Key Ingredients:

Protective Essential Oil Blend: contains orange, clove bud, cinnamon bark, *Eucalyptus radiata*, and rosemary essential oils. These oils have all been studied for their powerful antimicrobial and antiseptic properties.

Naturally Sourced Enzymes: including protease (breaks down proteins), amylase (breaks down starches), cellulase (helps prevent natural fiber materials from balling), mannase (breaks down organic stains), and lipase (breaks down fat and oil stains).

Natural Surfactants

Natural Corn-Based Enzyme Stabilizer

Companion Formulations, Blends, and Supplements: Protective Hand Wash, Protective Throat Drops, Protective Cleaner, Protective Blend.

Protecting Shampoo

Protecting Shampoo blends ingredients that have been studied for their abilities to cleanse and protect hair, especially hair that has been chemically treated or heat styled. This shampoo combines the benefits of essential oils with natural sugar beet derivatives and oat peptides to naturally protect, repair, and condition damaged hair—and to protect hair against future damage.

Suggested Key Ingredients:

Sugar Beet Derivative (Betaine): Betaine is a natural molecule found in human skin cells, in hair, and in many other places in the plant and animal kingdom. Betaine has been found to be involved in the skin's natural protective response to UV light (Warskulat et al., 2004, 2008) and has been found to have antioxidant properties (Ganesan et al., 2010). Treatment with betaine has also demonstrated an ability to improve the tensile strength of chemically damaged hair (Woodruff, 2002).

Oat Peptides: link together to form a protective coat that can help the hair and scalp retain moisture and protect the hair from future heat and chemical damage.

Emulsion of Silica: protects hair from chemical treatments and styling damage by deeply conditioning and smoothing the cuticle.

Orange Essential Oil: is calming and uplifting to the mind and body and has a pleasant, citrusy, sweet aroma. Orange oils are well-known for their abilities to degrease and degum, making them especially effective for cleansing the hair.

Lime Essential Oil: has a fresh, lively fragrance that is stimulating and refreshing. It can be used to cleanse the hair.

Companion Formulations: Smoothing Conditioner, Hair Glaze, Hair Serum.

Protective Toothpaste

This natural toothpaste formulation offers the protective benefits of Protective Blend along with peppermint, wintergreen, and myrrh essential oils.

Suggested Key Ingredients:

Protective Essential Oil Blend: contains orange, clove bud, cinnamon bark, *Eucalyptus radiata*, and rosemary essential oils. These oils have all been studied for their powerful antimicrobial and antiseptic properties. Several of these oils are also often used to help alleviate inflammation and ease gum and tooth pain.

Myrrh Essential Oil: has antiseptic properties and is often used to help support healthy gums and mouth tissues.

Peppermint Essential Oil: contains high levels of menthol, which has been well documented in research studies for its ability to inhibit bacteria known to cause dental cavities.

Calcium Hydroxyapatite: Hydroxyapatite is the main component of the hard crystal structure that makes up tooth enamel. While naturally strong, tooth enamel can be demineralized by conditions of acidity in the mouth (caused by eating sugar or acidic foods), weakening the enamel and allowing for small lesions and gaps to be created. There is some evidence that use of a polishing agent containing calcium hydroxyapatite can help restore tooth enamel from small lesions in vitro (Nishio et al., 2004).

Natural Xylitol: is a sweetener that, unlike most sweeteners, is beneficial for dental health. Xylitol has been found to reduce cavities and remineralize enamel.

Hydrated Silica: helps remove plaque.

Companion Formulations, Supplements, and Blend: Protective Hand Wash, Protective Throat Drops, Protective Blend.

Skin Serum

Skin Serum combines ingredients that have been studied for their abilities to hydrate and tighten the skin in order to reduce the appearance of fine lines and wrinkles.

Suggested Key Ingredients:

Frankincense Essential Oil: helps to focus energy and improve concentration and may help reduce signs of aging.

Sandalwood Essential Oil: supports the cardiovascular system and may assist in skin regeneration.

Myrrh Essential Oil: helps improve skin conditions, wounds, and wrinkles.

***Acacia senegal* and Hydrolyzed Rhizobian Gums (Rhizobian & Acacia Gum Extracts):** As the skin ages, skin tissue structures such as collagen, elastin, and hyaluronic acid begin to break down or aren't synthesized by cells as quickly as before. The loss and breakage of these structural molecules in the skin tissue result in sagging, wrinkling, and less rigid skin (Ghersetich et al., 1994).

The two gum extracts consist of long polysaccharide molecules that have the ability to bind together to form a linked network of molecules. As this formulation dries, this linked network of molecules contracts, physically pulling the skin tighter to help reduce wrinkling and fine lines.

***Avena sativa* (Oat) Kernel Extract:** This ingredient is comprised of a complex sugar structure extracted from oat kernels. This structure has the ability to form a continuous network with elastic qualities that can loosely bind to lipid structures in the epidermal cell membranes. These properties allow this network of molecules to gently tighten the skin, reducing the appearance of fine lines and wrinkles.

Perfluorodecalin (Proprietary Perfluorocarbon): As the skin ages, it can lose its ability to retain moisture, leading to less firm skin and increasing the visibility of fine lines and wrinkles.

Perfluorodecalin is a fluorocarbon molecule that has been studied for decades for its amazing oxygen-carrying properties and its potential to help heal wounds. When used in a cosmetic formulation during a small clinical trial, perfluorodecalin was shown to enhance the barrier function of the skin, allowing it to retain moisture and bringing about a visible reduction in fine lines and wrinkles (Stanzl et al., 1996).

***Ascophyllum nodosum* Extract (Brown Algae Extract):** *Ascophyllum nodosum* is a common brown seaweed found in the North Atlantic. This seaweed is rich in antioxidant polyphenols and also contains the polysaccharide fucoidan, which has been studied for its ability to inhibit the enzymes that break down collagen and elastin in the skin (Moon et al., 2009 and Senni et al., 2006).

This extract has also demonstrated an ability to inhibit the enzyme tyrosinase—an enzyme necessary for the production of the skin pigment melanin. This action may help decrease the appearance of pigmented spots on the skin, helping to promote a more even skin tone.

Nanopeptide-1 (Biomimetic Peptides): Lentigines are spots of pigmentation on the skin associated with UV damage causing activation of the melanocyte (pigment-forming) cells in the skin (Hölzle, 1992 and Bastiaens et al., 2004). As the skin ages and cells are replenished at a much slower rate, lentigines stay visible and become more prominent. These persistent lentigines are often called "age spots."

Within the body, one hormone that induces the production of the pigment melanin is alpha-MSH (melanocyte-stimulating hormone, or melanocortin). When this hormone binds to the melanocortin 1 receptor (MC1-R) on melanocytes, it stimulates the enzyme tyrosinase to begin the conversion of tyrosine (an amino-acid building block) into the pigment melanin (Kadekaro et al., 2003).

This biomimetic peptide contains the portion of alpha-MSH that binds to the melanocortin 1 receptor. Instead of stimulating melanin production, however, this unique peptide temporarily inhibits melanin production by the melanocyte cells. In vitro studies have indicated that this biomimetic peptide demonstrated the ability to reduce melanin synthesis by melanocyte cells. This finding leads to the potential of this peptide to be able to help control pigmentation in the skin, allowing for more even skin tone.

Vitamin Blend: This blend of vitamins provides nutrients essential for healthy skin cell function. It should include tocopherol acetate (Vitamin E—antioxidant and cellular communication), tetrahexyldecyl ascorbate (stabilized vitamin C—provides stability to collagen), Retinyl palmitate (Vitamin A palmitate—supports skin cell health), and D-panthenol triacetate (provitamin B5—may decrease skin irritation and pore size (Kuo et al., 2007 and Leung, 1995).

Companion Formulations: Facial Cleanser, Hydrating Cream, Invigorating Scrub, Skin Toner.

Skin Toner

This toner includes ingredients that have been studied for their abilities to help reduce the visible size of pores while eliminating skin irritation and stress.

Suggested Key Ingredients:

Lavender Essential Oil: is calming and promotes a sense of well-being.

Ylang Ylang Essential Oil: is calming and relaxing and may help alleviate anger.

German Chamomile Essential Oil: soothes and clears the mind, creating an atmosphere of peace and patience.

Lysophosphatidic Acid (Soybean Extract): Lysophosphatidic acid is a phospholipid messenger that has diverse biological functions. One of the most studied functions involves the role lysophosphatidic acid plays in wound healing of the skin by encouraging cell growth and migration (Balazs et al., 2001).

In the epidermis, the cells visible on the surface of the skin are actually converted keratinocyte cells that have lost their nucleus and have become filled with the rigid skin-barrier protein, keratin. This conversion (called keratinization) is essential for creating a healthy skin barrier that helps keep moisture within the skin and that helps keep harmful microorganisms and toxins from entering the body through the skin. Occasionally, however, these keratinocyte cells do not completely convert, retaining their nuclei and not completely filling with keratin. This condition is called parakeratosis and can lead to several dermatological problems, such as psoriasis, if it happens too often (Scheinfeld et al., 2005).

Recent studies on the cosmetic concern of large, visible facial skin pores have found evidence that incomplete keratinization (or parakeratosis) is significantly more evident on individuals with larger pore sizes than on individuals with smaller pores.

It has been hypothesized that lysophosphatidic acid's role in promoting skin cell differentiation (Piazza et al., 1995) (potentially preventing parakeratosis in keratinocyte cells), as well as its ability to promote the synthesis of proteins involved in cell adhesion (Piazza et al., 1995) (potentially allowing for more tightly packed cells), can lead to more healthy skin with smaller, less visible pores. A small clinical trial with lysophosphatidic acid has demonstrated the efficacy of this hypothesis, finding that topical application of lysophosphatidic acid reduced pore size and total pore area on the skin of volunteers (as compared to a placebo).

Curcurbita pepo **(Pumpkin Seed) Extract:** When nerve cells in the skin are stimulated by an irritant, they release specific chemicals that stimulate the release of histamine into the surrounding tissue. Histamine, in turn, can stimulate the surrounding blood vessels to open, allowing blood and plasma to flow into the skin tissue (causing reddening and swelling), potentially causing further irritation to the nerve cells (causing itching or stinging). While this inflammation process is a natural part of wound healing and cleansing, it can also happen too much or too often—causing dermatological problems such as an allergic reaction, eczema, or psoriasis.

This pumpkin seed extract is an amino acid called cucurbitine. Cucurbitine has shown a promising ability to soothe skin and to limit localized skin inflammation in two ways. First, it has demonstrated an ability in laboratory tests to block the enzyme that creates histamine (histidine decarboxylase) from creating excess histamine (Renimel et al., 1995). Second, cucurbitine has demonstrated an ability to inhibit the release of histamine into the skin tissue. Both of these effects have demonstrated an ability in small clinical trials to soothe red, irritated skin faster than a placebo.

Cruciferous Vegetable Extracts: Plants in the Brassicaceae (or Cruciferae) family, such as broccoli, cabbage, and brussels sprouts, have extremely high concentrations of substances called isothiocyanates. Isothiocyanates, such as sulforaphane and phenethyl isothiocyanate, have been studied for years for their potential anti-inflammatory (Traka et al., 2008), antioxidant (Fowke et al., 2006), and anticancer (Ambrosone et al., 2004, Navarro et al., 2009, vanPoppel et al., 1999 and Xiao et al., 2010) properties. A strong association has been found between cruciferous vegetable consumption and decreased risk of cancer in individuals of a certain genotype, due to the ability of isothiocyanates to increase the action of glutathione s-transferase (an enzyme that detoxifies carcinogens) (Moore et al., 2007, Moy et al., 2009 and Navarro et al., 2009).

The isothiocyanates suggested for this formulation have been extracted from seven different cruciferous vegetable plant sprouts. This specific combination of isothiocyanates has also shown promising UVB protection in tests, indicating that it has the potential to decrease redness and damage in skin exposed to the UVB rays found in sunlight.

Vitamin Blend: This unique blend of vitamins provides nutrients essential for healthy skin cell function. It should include tocopherol acetate (Vitamin E—antioxidant and cellular communication), tetrahexyldecyl ascorbate (stabilized vitamin C—provides stability to collagen), Retinyl palmitate (Vitamin A palmitate—supports skin cell health), and D-panthenol triacetate (provitamin B5—may decrease skin irritation and pore size (Kuo et al., 2007 and Leung, 1995).

Companion Formulations: Facial Cleanser, Hydrating Cream, Invigorating Scrub, Skin Serum.

Smoothing Conditioner

This conditioner combines several ingredients known for their ability to help restore luminosity, shine, fullness, and overall health to hair. This formulation is designed to help smooth the outside layer of the hair strands, reducing mechanical damage caused by friction. This conditioner combines the benefits of essential oils with natural botanical extracts to naturally condition and repair damaged hair and to protect hair against future damage.

Suggested Key Ingredients:

Botanical Extracts: from Peruvian bark, yarrow, coltsfoot, barley, sandalwood, and other plants help smooth and protect the hair from heat, chemicals, and mechanical damage.

Lavender Essential Oil: helps nourish the scalp and hair follicles. Medicinally, it has been used by the French to prevent hair loss.

Peppermint Essential Oil: is invigorating and helps improve the overall health of the scalp and hair.

Marjoram Essential Oil: has antiseptic properties and helps soothe the skin and muscles.

Cedarwood Essential Oil: is purifying and has properties beneficial to healthy scalp and hair growth.

Lavandin Essential Oil: has antifungal and anti-inflammatory properties and can help soothe itching and other skin discomforts.

Rosemary Essential Oil: has antioxidant properties and has shown potential for helping alleviate dandruff and promoting healthy hair growth.

Niaouli (*Melaleuca quinquenervia*) Essential Oil: has powerful antifungal and anti-inflammatory properties and may help protect against UV damage.

Eucalyptus (*E. globulus*) Essential Oil: has antiseptic and anti-inflammatory properties. It is stimulating to the tissues and helps purify.

Companion Formulations: Protecting Shampoo, Hair Glaze, Hair Serum.

Soothing Rub

This massage and sports cream contains the Soothing essential oil blend. This blend is comprised of oils that have been studied for their abilities to help reduce muscle, joint, and bone pain and inflammation. Additionally, this moisturizing cream contains ingredients known to stimulate sensations of warmth and coolness to help soothe tissue soreness and stiffness.

Suggested Key Ingredients:

Wintergreen Essential Oil: contains 99% methyl salicylate, which gives it cortisone-like properties. It may be beneficial for arthritis, rheumatism, tendinitis, and any other discomfort that is related to the inflammation of bones, muscles, and joints.

Camphor Essential Oil: is analgesic (pain-relieving) and anti-inflammatory. It may be beneficial for arthritis, rheumatism, muscle aches and pains, sprains, and bruises.

Peppermint Essential Oil: is anti-inflammatory to the prostate and to damaged tissues. It has a soothing and cooling effect that may help with arthritis and rheumatism.

Blue Tansy Essential Oil: is analgesic and anti-inflammatory. It may also help with low blood pressure, arthritis, and rheumatism.

German Chamomile Essential Oil: is antioxidant, anti-inflammatory, and analgesic. It may also help relieve congestion and arthritis.

Helichrysum Essential Oil: may help cleanse the blood and improve circulatory functions. It is anticatarrhal in structure and nature. As a powerful anti-inflammatory, it may even help reduce inflammation in the meninges of the brain. On a spiritual level, it may help one let go of angry feelings that prevent one from forgiving and moving forward.

Osmanthus Essential Oil: comes from one of the 10 famous traditional flowers of China. The blossoms are highly aromatic and are used in the world's rarest and most expensive perfumes. It is used in Chinese medicine to "reduce phlegm and remove blood stasis."

***Eucalyptus globulus* Essential Oil:** is anti-inflammatory and has pain-relieving properties. It is often used to help alleviate aches, pains, and skin infections.

Menthol: is the main constituent of peppermint oil and is known for its ability to cool the body and skin.

***Capsicum frutescens* Fruit Extract:** comes from a species of chili pepper. This extract causes a gentle warming sensation on the skin.

Companion Blend: Soothing Blend.

Topical Facial Lotion

This clearing facial lotion will help to remove skin blemishes while providing lasting moisture for the skin. Using the power of essential oils this lotion helps relieve acne and other skin blemishes.

Suggested Key Ingredients:

Melaleuca Essential Oil: has long been used to treat acne and other skin conditions because of its powerful antimicrobial properties. For example, in one study a gel with 5% melaleuca oil was found to be as effective at treating acne as a lotion with 5% benzoyl peroxide (a common chemical used to treat acne) (Bassett et al., 1990). Melaleuca oil has also been found to reduce skin swelling, oxidative stress, and speed skin recovery and healing (Brand et al., 2002; Caldefie-Chézet et al., 2006; Feinblatt et al., 1960).

Eucalyptus Essential Oil: can be used to relieve inflammation, acne, and skin infections. Eucalyptus is a powerful purifier and is known for its antibacterial, anti-infectious, and antiviral properties. It is used medicinally in France to treat candida and other fungal infections.

Geranium Essential Oil: has antibacterial and anti-inflammatory properties and is often used to help alleviate the effects of acne and eczema. It may also help balance sebum levels in the skin.

Ho Wood Essential Oil: is known for its antiseptic properties and is often used to help clear infections and to support the revitalization of skin issues.

Litsea Essential Oil: has antiseptic and astringent properties and has been used for oily skin and acne.

Vitamin B_3: plays a role in cellular metabolism. Deficiency in Vitamin B_3 can result in dermatitis, diarrhea, confusion, and dementia.

Amino Acids: are micronutrients that maintain the barrier function of the skin, nourish the skin, and support skin hydration. Topical application of micronutrients can assist the body's natural amino acids.

Black Cumin Seed Oil: has been used since ancient times for a myriad of health concerns. In addition to its antioxidant and anti-inflammatory properties, black cumin seed oil also has a high content of linoleic acid, and essential fatty acid used by the body to help maintain healthy skin and hair. Linoleic acid has been studied for its ability to reduce acne and to enhance cellular migration during wound healing.

Chaulmoogra Oil: has been used in traditional medicine to treat leprosy and other skin diseases. This oil's antibacterial properties make it beneficial for speeding wound recovery and clearing acne.

Magnolia: possesses antibacterial and anti-inflammatory effects, helping it protect against acne.

Manuka: has been found to help clear, firm, and moisturize the skin.

White Willow Bark: has been known to help prevent acne.

Companion Formulation and Blend: Topical Face Wash and Topical Blend.

Topical Face Wash

This Topical Face Wash blends several ingredients that have been studies for their abilities to help clarify the skin and to create a hostile environment for detrimental skin bacteria.

Suggested Key Ingredients:

Rosewood Essential Oil: is known for its antiseptic properties and is often used to help clear infections and to support the revitalization of skin tissue.

Melaleuca Essential Oil: is one of the most studied antibacterial and antifungal oils. Melaleuca also has anti-inflammatory properties and can help support the skin in the recovery process after injuries.

***Eucalyptus globulus* Essential Oil:** is often used for inflammation and skin infections and sores. It is used medicinally in France to treat candida and other fungal infections and has also demonstrated strong antibacterial properties.

Geranium Essential Oil: has antibacterial and anti-inflammatory properties and is often used to help alleviate the effects of acne and eczema. It may also help balance sebum levels in the skin.

Lemongrass Essential Oil: is known for its antiseptic properties and is often used to help clear infections and to support the revitalization of skin tissue.

Black Cumin Seed Oil: has been used since ancient times for a myriad of health concerns. In addition to its antioxidant and anti-inflammatory properties, black cumin seed oil also has a high content of linoleic acid, an essential fatty acid used by the body to help maintain healthy skin and hair. Linoleic acid has been studied for its ability to reduce acne microcomedones (Letawe et al., 1998) and to enhance cellular migration during wound healing (Ruthig et al., 1999).

White Willow Bark Extract: has been used for centuries for its anti-inflammatory and analgesic properties. This natural extract has also been used topically as an aid for acne and acne lesions by promoting the shedding of dead skin cells from the skin's surface.

***Glycyrrhiza inflata* Root Extract:** *Glycyrrhiza inflata* is a species of plant found in China that is closely related to the licorice plant. The root of this plant contains substances that have been studied for their antioxidant (Veratti et al., 2001) and anti-inflammatory (Shetty et al., 2011 and Ishida et al., 2012) properties as well as for their ability to help reduce dermatitis (Saeedi et al., 2003) and to balance sebum production in the skin (Kambara et al., 2003).

***Candida bombicola* Ferment:** *Candida bombicola* is a harmless yeast that has the ability to produce natural, biodegradeable biosurfactants (natural substances that act as detergents to cleanse oils and sebum from the skin) (Saerens et al., 2011).

Vitamin A: plays a critical role in the creation and growth of normal skin cells in the epidermis.

Companion Formulation and Blend: Topical Blend, Topical Facial Lotion.

Two-Part Facial System

The Two-Part Facial System consists of a two-part spa-grade facial care system that combines ingredients that have been studied for their abilities to help exfoliate and polish the skin and then deliver protein-building peptides to help maintain fuller, more radiant skin.

Suggested Key Ingredients:

Pumpkin Fruit Enzyme: Pumpkin fruits contain a high level of protease enzymes (enzymes that break down proteins) in order to break down the pumpkin fruit and provide nourishment for new seeds once the seeds have matured. These pumpkin-based enzymes have shown an ability in limited human studies to help break down proteins in dead skin cells without the irritation often associated with other types of enzymes or acid-based exfoliants.

Acetyl Hexapeptide-8: In vitro studies and limited clinical trials have demonstrated evidence that acetyl hexapeptide-8 has the ability to inhibit neurotransmitters involved in muscle contractions responsible for fine lines around the eyes and forehead associated with facial expressions and, therefore, may reduce the appearance of fine lines and wrinkles in these areas (Blanes-Mira et al., 2002).

Ceramide 2: Ceramides comprise a major part of the stratum corneum—a barrier found in the outer layer of the epidermis that is responsible for retaining moisture and protecting lower layers of cells within the skin. Low levels of ceramides have been associated with skin problems such as atopic dermatitis due to a breakdown or thinning of the stratum corneum (Imokawa, 2009). Topical application of ceramides such as ceramide 2 has shown potential in research studies to help increase ceramide levels in the skin and improve skin barrier function (Philippe et al., 1995).

Palmitoyl Oligopeptide and Palmitoyl Tripeptide-38 (Matrikine Messaging): The space in between skin (and other tissue) cells is filled with water and a mixture of fibrous proteins and polysaccharides called the extracellular matrix. These proteins and polysaccharides help give skin tissue its strength and elasticity and provide a framework for new cell growth and migration. Examples of extracellular proteins commonly found in skin tissue include collagen (provides strength, volume, and rigidity) and elastin (provides flexibility and resilience).

Enzymes on the outside of the cell membranes have the ability to break down some of these extracellular proteins into smaller peptide units when activated. Some of these smaller peptide units, in turn, have the ability to send further signals to surrounding cells to start, or turn off, the creation of new proteins and other structures. These small peptide messengers are called matrikines (Maquart et al., 1999).

Studies have shown that certain matrikines, such as the tripeptide glycyl-histidyl-lysine (GHK), have the ability to activate and regulate synthesis of extracellular matrix proteins (Maquart et al., 1999); while others can help stimulate the creation of an extracellular matrix framework that facilitates new cell growth and the healing of skin wounds (Siméon et al., 1999 and Tran et al., 2004).

With aging, extracellular proteins and fibers begin to break down, and synthesis of new structures is limited. Because of this loss of proteins and other structures in the extracellular matrix, the skin begins to lose its rigidity, structure, resilience, and elasticity, resulting in the appearance of fine lines and wrinkles.

In vitro studies and limited clinical trials have demonstrated evidence that palmitoylated matrikines may have the ability to activate synthesis of extracellular matrix structures, such as collagen, fibronectin, and hyaluronic acid, that can lead to a fuller, tighter skin structure and can reduce the appearance of fine lines and wrinkles.

Orange Essential Oil: Orange oil is often used to help aid complexion and to help combat the effects of dermatitis. Orange oil also contains high levels of d-limonene, which is often used for its ability to help enhance skin permeability of other key substances.

Lime Essential Oil: Lime oil is often used to help revitalize skin, as it may be beneficial in helping to remove dead skin cells and helping to tighten skin and connective tissues.

Companion Formulations: Facial Cleanser, Hydrating Cream, Invigorating Scrub, Skin Serum.

Youthful Hydrating Serum

This anti-aging hydrating serum combines the action of the Anti-Aging Blend with other natural ingredients to reduce the appearance of skin aging. By emulating the natural micronutrients of the skin this serum renews the youthful properties associated with healthy skin, such as firmness, elasticity, and hydration.

Suggested Key Ingredients:

Frankincense Essential Oil: helps to focus energy and improve concentration and may help reduce signs of aging. It also prevents scarring, supports the immune system, and speeds the healing of wounds.

Hawaiian Sandalwood Essential Oil: helps to relive dry skin and hair, clear up acne, and support skin regeneration.

Lavender Essential Oil: has been studied for its ability to reduce inflammation and allergic reactions in the skin. It has also been used to help the skin recover from burns, blisters, infections, and other injuries and to help reduce conditions related to dry skin.

Myrrh Essential Oil: helps improve skin conditions, wounds, and wrinkles.

Helichrysum Essential Oil: is antibacterial, anti-inflammatory, and cleansing. It has also been used to treat dermatitis/eczema. Helichrysum can also be used to protect the skin from the sun, heal scars, and treat skin disorders.

Rose Essential Oil: can be used to prevent scarring and its healing properties have been used throughout the ages. This oil can be used to help ease symptoms of aging, including wrinkles.

Hydrates and Lipids: are micronutrients that maintain the barrier function of the skin, nourish the skin, and support skin hydration. Topical application of micronutrients can assist the body's natural hydrates and lipids. Poor levels of micronutrients is associated with unhealthy looking skin.

Olive Oil: hydrates the skin and increases skin flexibility. Olive oil also displays antioxidant properties (Budiyanto et al., 2000).

Jojoba Oil: Although called an oil, jojoba oil is actually a natural liquid wax extracted from jojoba (*Simmondsia chinensis*) plants found in the south-western U.S. and northern Mexico. This liquid wax closely resembles the skin's natural oils (or sebum).

Macadamia Oil: is moisturizing, reparative, and cleansing.

Companion Formulations and Blend: Anti-Aging Blend, Youthful Moisturizing Lotion, Youthful Skin Cleanser, Youthful Skin Toner.

Youthful Moisturizing Lotion

This moisturizing facial lotion is ideal for all skin types and provides hydration as well as skin nourishment. As the lotion hydrates deeply it helps to reduce wrinkles and smooth the skin.

Suggested Key Ingredients:

Jasmine Essential Oil: is gentle and beneficial for all types of skin. Jasmine oil can help care for dry, greasy, or irritated skin.

Geranium Essential Oil: soothes sensitive skin, hydrates dry skin, and reduces wrinkles. Geranium oil may also be beneficial for acne, balancing the sebum of skin, cleansing oily skin, and may even liven up pale skin.

Sea Buckthorn Berry Essential Oil: is beneficial for the skin, has antioxidant properties, and displays restorative properties.

Juniper Berry Essential Oil: is beneficial for relieving acne and other skin issues. Juniper berry oil is also a cleanser, purifier, and helps heal wounds. This oil may also help skin retain moisture.

Rice Bran Oil: contains antioxidants, vitamins and nutrients. Rice bran oil is beneficial for the skin because it helps nourish, regenerate, and tone.

Shea Butter: is widely known as a powerful moisturizer. Shea butter has been used to heal skin conditions and reduce wrinkles. Shea butter mimics the body's natural moisturizers and is therefore extremely affective at treating dry skin, sunburns, wounds, skin cracks, stretch marks, and burns.

Phellodendron Amurense Bark Extract: is a fundamental herb used in traditional Chinese medicine. Modern research has shown that this extract possesses anti-inflammatory properties in vitro and in vivo (Choi et al., 2014).

Companion Formulations and Blend: Anti-Aging Blend, Youthful Hydrating Serum, Youthful Skin Cleanser, Youthful Skin Toner.

Youthful Skin Cleanser

This natural gel cleanser will reduce the appearance of skin aging by hydrating, nourishing, and smoothing the skin. To help produce a glowing youthful complexion, use this cleanser to remove makeup and dirt, deeply clean pores, and energize skin.

Suggested Key Ingredients:

Orange Essential Oil: is uplifting and invigorating and is known for its cleansing and purifying properties.

Basil Essential Oil: is cleansing and purifying. Basil oil has demonstrated strong inhibition of several multi-drug resistant bacteria (Opalchenova et al., 2003). This oil also exhibits antioxidant, anti-inflammatory, and energizing activity.

Melaleuca Essential Oil: has long been used to treat acne and other skin conditions because of its powerful antimicrobial properties. For example, in one study a gel with 5% melaleuca oil was found to be as effective at treating acne as a lotion with 5% benzoyl peroxide (a common chemical used to treat acne) (Bassett et al., 1990). Melaleuca oil has also been found to reduce skin swelling, oxidative stress, and speed skin recovery and healing (Brand et al., 2002; Caldefie-Chézet et al., 2006; Feinblatt et al., 1960).

Amino Acids and Lipids: are micronutrients that maintain the barrier function of the skin, nourish the skin, and support skin hydration. Topical application of micronutrients can assist the body's natural amino acids and lipids. Poor levels of micronutrients is associated with unhealthy looking skin.

Coconut Oil: is often used in soaps, creams, and lotions for its moisturizing and skin-softening abilities.

Olive Oil: hydrates the skin and increases skin flexibility. Olive oil also displays antioxidant properties (Budiyanto et al., 2000).

Companion Formulations and Blend: Anti-Aging Blend, Youthful Hydrating Serum, Youthful Moisturizing Lotion, Youthful Skin Toner.

Youthful Skin Toner

This nourishing skin toner will reduce the appearance of skin aging by tightening, toning, and smoothing the skin. To help produce a youthful complexion, use this toner to increase skin glow, tone, and texture, and tighten pores.

Suggested Key Ingredients:

Ylang Ylang Essential Oil: is calming and relaxing to the mind and body. It brings a feeling of self-love, confidence, joy, and peace.

Coriander Essential Oil: is soothing and toning. Coriander oil may also regulate and help control pain. It is also rejuvenating for the skin. Coriander also helps aid muscle tone.

Cypress Essential Oil: is antibacterial, antimicrobial, relaxing, and refreshing. This oil can help regulate circulation and is revitalizing for the skin.

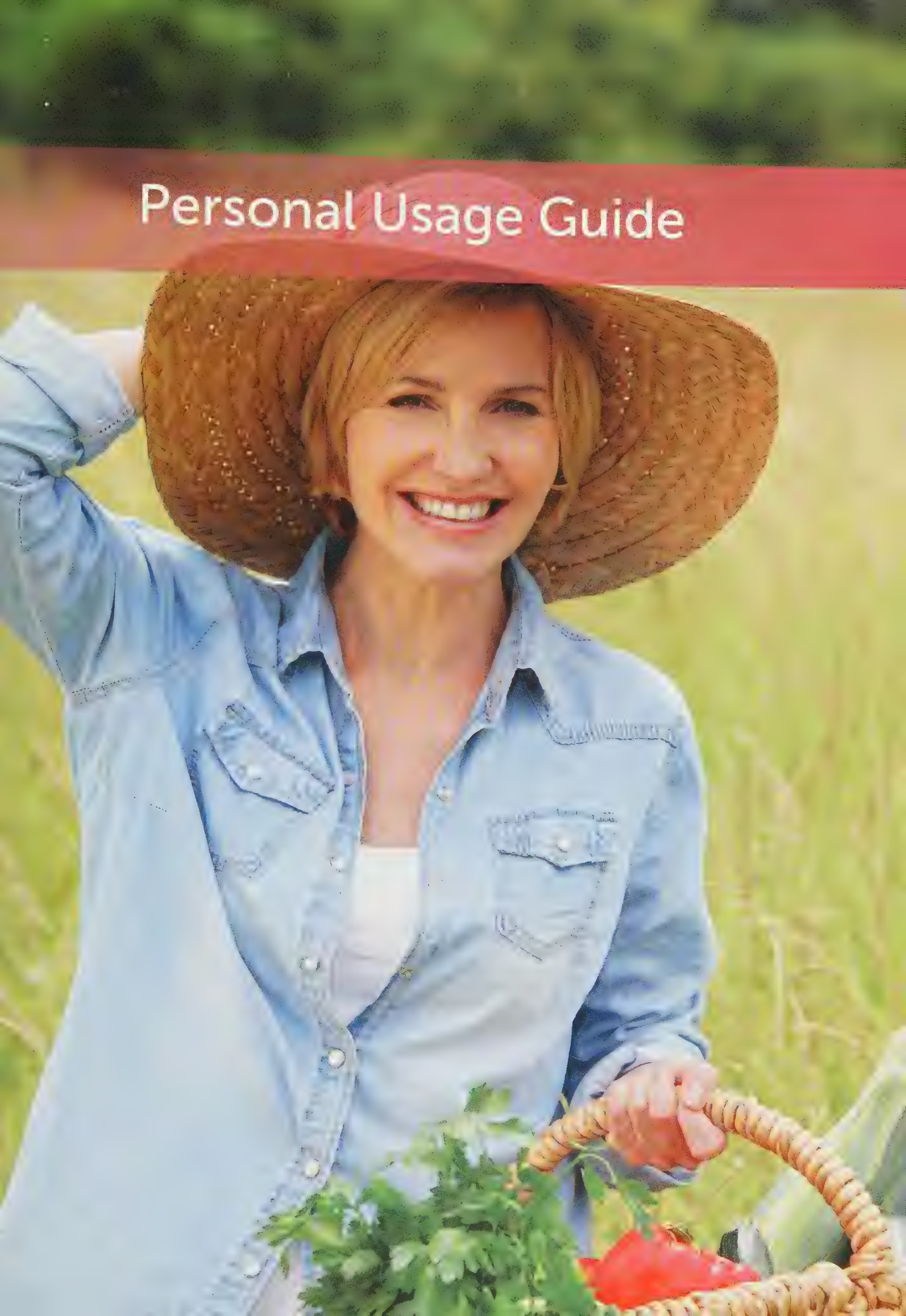
Palmarosa Essential Oil: is valuable for all types of skin problems because it stimulates new cell growth, regulates oil production, hydrates, moisturizes, and speeds healing.

Witch Hazel: has long been used to treat skin issues. Along with shrinking pores and removing excess oil, it can be used to cleanse, tone, and smooth skin.

Aloe: is widely known to soothe and moisturize skin.

Companion Formulations and Blend: Anti-Aging Blend, Youthful Hydrating Serum, Youthful Moisturizing Lotion, Youthful Skin Cleanser.

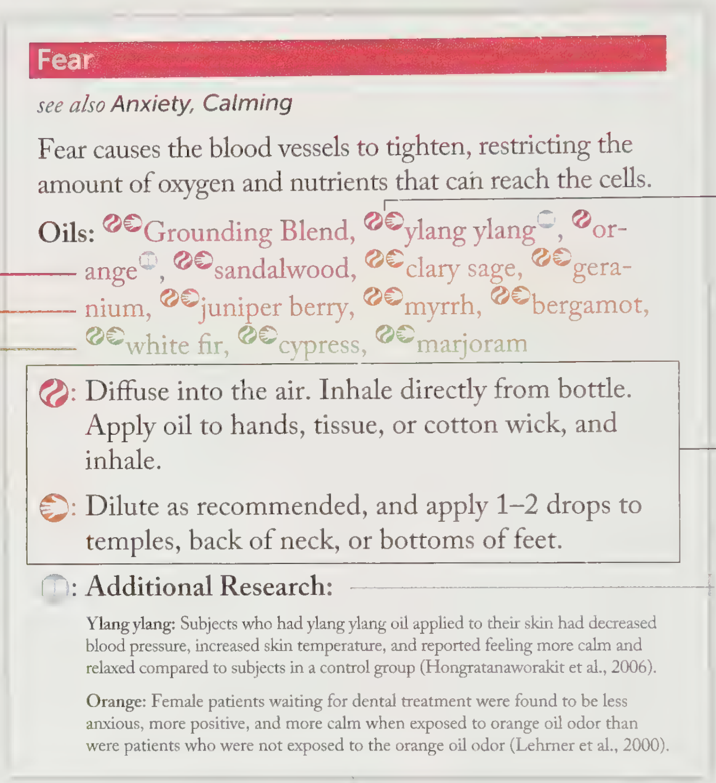
Personal Usage Guide



Personal Usage Guide: How to Use This Section

This section is a compilation of many different health conditions and the various essential oils, blends, and supplements that are commonly used and recommended for each condition.

Example Entry:



Fear

see also Anxiety, Calming

Fear causes the blood vessels to tighten, restricting the amount of oxygen and nutrients that can reach the cells.

Oils: Grounding Blend, ylang ylang, orange, sandalwood, clary sage, geranium, juniper berry, myrrh, bergamot, white fir, cypress, marjoram

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Dilute as recommended, and apply 1–2 drops to temples, back of neck, or bottoms of feet.

: **Additional Research:**

Ylang ylang: Subjects who had ylang ylang oil applied to their skin had decreased blood pressure, increased skin temperature, and reported feeling more calm and relaxed compared to subjects in a control group (Hongratanaworakit et al., 2006).

Orange: Female patients waiting for dental treatment were found to be less anxious, more positive, and more calm when exposed to orange oil odor than were patients who were not exposed to the orange oil odor (Lehrner et al., 2000).

Under each **condition**, the oils, blends, and supplements have been grouped as:

- Primary Recommendations: Try these oils, blends, or supplements first.
- Secondary Recommendations: Try these oils or blends second. Supplements listed as secondary recommendations may be useful for general nutritional support of the body systems involved in prevention or healing from a specific condition.
- Other Recommendations : Oils, blends, and supplements that may also help, depending on the underlying cause.

The criteria for grouping within these categories include the recommendations of experts within the field of essential oils, supporting scientific research studies, historical uses of the oils and the herbs and plants they are derived from, and more recent French medicinal uses for the oils. However, since each individual may have different underlying causes for his or her specific condition, what may work for one individual may be different than what works for another.

Also listed under each condition are recommendations for how to use or apply these oils or supplements for that particular condition. The three main application and usage methods are aromatic, topical, and internal. The recommended methods are indicated next to each oil as a small ◎ for Aromatic, ◐ for Topical, and 💧 for Internal.

◎: Aromatic means that the oils are breathed or inhaled through the mouth and nose. This could include breathing the aroma of the oil directly from the bottle or breathing in oil that has been applied to the hands or to another material such as a tissue or cotton wick. It could also mean breathing the vapor or mist of an oil that has been diffused or sprayed into the surrounding air.

◐: Topical means that the oils are applied directly onto the skin, hair, or other surface of the body. This can be through direct application of the oils to the skin or by using the oils in massages, baths, or within a cream, lotion, or soap. While some oils can be applied neat (without dilution), others may need to be diluted before topical application, especially for young or sensitive skin. Refer to the Single Essential Oils section of this book or the Dilution Reference Chart (following these notes) for recommended dilutions for the oils listed in this book.

💧: Internal means that the oils or supplements are taken orally. This can be done either by adding the oil to a food or beverage that is then consumed, placing a drop of oil under the tongue, or by swallowing a capsule that has the essential oil or supplement inside.

For more information on specific ways essential oils can be applied or used, see the Science and Application of Essential Oils section in this book.

The large ◎, ◐, or 💧 listed near the bottom of each entry refers to recommended application methods specific for that condition.

◯: For many conditions listed in this section there is also additional supporting research.

Many entries also include **definitions** of conditions and terms (listed directly underneath the topic), **subtopics** related to that condition, and even **recipes or blends** that can be used for that condition.

Example Entry:

Below are some additional things to keep in mind as you use and apply the essential oils, blends, and supplements listed in this section.

Oils: ◐melaleuca, ◎◐oregano, ◐peppermint, ◐thyme, ◐geranium, ◐lavender

Blend 1: Combine 2 drops lavender, 2 drops melaleuca, and 2 drops thyme. Apply 1–2 drops on ringworm three times a day for 10 days. Then mix 30 drops melaleuca with 2 Tbs. fractionated coconut oil, and use daily until ringworm is gone.

—Thrush:

Thrush is another name for oral candidiasis (*see Candida above*). Thrush results in uncomfortable or painful white or yellow patches in the mouth.

Oils: ◐melaleuca◯, ◐lavender, ◐eucalyptus, ◐marjoram, ◐thyme

Symbols and Colors Used in This Section

✋	Topical
♨	Aromatic
○	Internal
🧴	Cleaning/Disinfecting
☀	Avoid sunlight for up to 12 hours after use
☀ ☀	Avoid sunlight for up to 72 hours after use
●	Can be used neat (without dilution)
●:○	For ratios like this, the first drop represents the proportion of essential oil to use, and the second drop represents the proportion of carrier oil (such as fractionated coconut oil) to use. For this ratio, you would blend 1 part essential oil with 1 part carrier oil before applying.

🔴	Primary Recommentation
🟠	Secondary Recommendation
🟢	Other Recommendations
📖	See Additional Research
▽	Use with extreme caution and dilute heavily
✕	Avoid

Personal Usage Guide: Dilution Reference Chart

Single Oil Name	Recommended Dilution Adults	 Child/ Sensitive	 Expectant Mother
Arborvitae	●	●○	✕
Basil	●	●○	✕
Bergamot	●☀	●☀☀	●☀☀
Birch	●	●○	✕
Black Pepper	●○○	▽	▽
Cardamom	●	●	●
Cassia	●○○○○	▽	✕
Cedarwood	●	●○○	▽
Cilantro	●	●	●
Cinnamon	●○○○	▽	✕
Clary Sage	●	●	▽
Clove	●○	●○○○○	▽
Coriander	●	●	●
Cypress	●	●	▽
Dill	●	●	●
Eucalyptus	●	●○	●
Fennel	●	●○	▽
Frankincense	●	●	●
Geranium	●	●○	●
Ginger	●☀	●○	●
Grapefruit	●	●	●
Hawaiian Sandalwood	●	●	●
Helichrysum	●	●	●
Juniper Berry	●	●○	●
Lavender	●	●	●
Lemon	●☀	●☀	●☀
Lemongrass	●	●○	●○
Lime	●☀	●○☀	●☀
Marjoram	●	●○	▽
Melaleuca	●	●	●
Melissa	●	●	●
Myrrh	●	●	▽
Orange	●☀	●☀	●☀
Oregano	●○○○	▽	▽

Single Oil Name	Recommended Dilution Adults	 Child/ Sensitive	 Expectant Mother
Patchouli	●	●	●
Peppermint	●	●○	▽
Roman Chamomile	●	●○	●
Rose	●	●	●
Rosemary	●	●○	✕
Sandalwood	●	●	●
Spearmint	●	●○	▽
Thyme	●○○○○	▽	✕
Vetiver	●	●	▽
White Fir	●	●○	●○
Wintergreen	●	●○	✕
Ylang Ylang	●	●	●

Oil Blend Name			
Anti-aging Blend	●	●	▽
Blend for Women	●	●	●
Calming Blend	●	●	●
Cellular Complex	●	●○	▽
Cleansing Blend	●	●	●
Detoxification Blend	●○	●○○○○	▽
Digestive Blend	●	●	▽
Focus Blend	●	●○	●○
Grounding Blend	●	●	●
Headache Relief Blend	●	●○	▽
Invigorating Blend	●☀	●☀	●☀
Joyful Blend	●☀	●☀	●☀
Massage Blend	●	●	●
Metabolic Blend	●☀	●○☀	▽
Protective Blend	●	●○	▽
Repellent Blend	●	●	●
Respiratory Blend	●	●○	●
Soothing Blend	●	●○	●
Topical Blend	●	●	▽
Women's Monthly Blend	●	●○	▽

Additional Notes on Using Essential Oils

— If essential oils get into your eyes by accident or if they burn the skin a little, do not try to remove the oils with water. This will only drive the oils deeper into the tissue. It is best to dilute the essential oils on location with a pure vegetable oil (such as fractionated coconut oil).

— The FDA has approved some essential oils generically for internal use and given them the following designations: GRAS (Generally Recognized As Safe for human consumption), FA (Food Additive), or FL (Flavoring agent). *These designations are listed under Oral Use As Dietary Supplement for each single oil in the Single Essential Oils section of this book.*

— Using some oils such as lemon, orange, grapefruit, bergamot, etc., before or during exposure to direct sunlight or UV rays (tanning beds, for example) may cause a rash, pigmentation, or even severe burns. Please see the safety information under each oil in the Single Essential Oil chapter of this book for further information; then either dilute these oils and test a small area, or avoid their use altogether.

— Caution should be used with oils such as clary sage and fennel during pregnancy. These oils contain active constituents with hormone-like activity and could possibly stimulate adverse reactions in the mother, although there are no recorded cases in humans.

— Particular care should be taken when using cassia, cinnamon, lemongrass, oregano, and thyme, as they are some of the strongest and most caustic oils. It is best to dilute them with a pure vegetable oil.

— When a blend or recipe is listed in this section, rather than mix the oils together, it may be more beneficial to layer the oils: that is, apply a drop or two of one oil, rub it in, and then apply another oil. If dilution is necessary, a pure vegetable oil can be applied on top.
Effectiveness is in the layering.

— Less is often better: use one to three drops of oil and no more than six drops at a time. Stir, and rub on in a clockwise direction.

— When applying oils to infants and small children, dilute one to two drops pure essential oil with 1–3 teaspoon (tsp.) of a pure vegetable oil (such as fractionated coconut oil). If the oils are used in the bath, always use a bath gel base as a dispersing agent for the oils. See *Children and Infants* in this section for more information about the recommended list of oils for babies and children.

— The body absorbs oils the fastest through inhalation (breathing) and second fastest through application to the feet or ears. Layering oils can increase the rate of absorption.

— The life expectancy of a cell is 120 days (4 months). When cells divide, they make duplicate cells. If the cell is diseased, new diseased cells will be made. When we stop the mutation of the diseased cells (create healthy cells), we stop the disease. Essential oils have the ability to penetrate and carry nutrients through the cell wall to the nucleus and improve the health of the cell.

— *Use extreme caution when diffusing cassia or cinnamon,* as they may burn the nostrils if you put your nose directly next to the nebulizer of the diffuser where the mist is coming out.

— When traveling by air, you should always have your oils hand-checked. X-ray machines may interfere with the frequency of the oils.

— Keep oils away from the light and heat—although they seem to do fine in temperatures up to 90 degrees. If stored properly in a cool, dark environment, they can maintain their maximum potency for many years.

Personal Usage Guide

ADD/ADHD

Attention deficit disorder or attention deficit/hyperactivity disorder is a psychological condition characterized by inattentiveness, restlessness, and difficulty concentrating. Although most individuals exhibit all of these symptoms at some point, ADD is characterized by a frequency and duration of these symptoms that are inappropriate to an individual's age.

Oils: ⊖⊘Focus Blend, ⊘⊖Calming Blend, ⊖vetiver, ⊘⊖lavender

Blend 1: Combine equal parts lavender and basil. Diffuse, or apply 1–3 drops on the crown of the head.

⊘: Diffuse into the air. Inhale oil directly from the bottle, or applied to a tissue or cotton wick.

⊖: Dilute as recommended, and apply 1–3 drops on the bottoms of the feet and/or on the spine.

AIDS/HIV

see also Antiviral

Acquired immune deficiency syndrome (AIDS) is a disease of the human immune system. AIDS progressively inhibits the effectiveness of the immune system, leaving the human body susceptible to both infections and tumors. AIDS is caused by the human immunodeficiency virus (HIV), which is acquired by direct contact of the bloodstream or mucous membrane with a bodily fluid (such as blood, breast milk, vaginal fluid, semen, and preseminal fluid) containing HIV.

Oils: ⊖⊘helichrysum, ⊖Protective Blend, ⊖⊘lemon, ⊖⊘bergamot, ⊖Grounding Blend

⊘: Diffuse into the air. Inhale oil applied to a tissue or cotton wick.

⊖: Dilute as recommended, and apply 1–3 drops on the bottoms of the feet and/or on the spine.

Additional Research:

Helichrysum: Arzanol, extracted from helichrysum, inhibited HIV-1 replication in T cells and also inhibited the release of pro-inflammatory cytokines (chemical messengers) in monocytes (Appendino et al., 2007).

Bergamot: Bergamot extract was found to have potent antiretroviral activity towards HTLV-1 (a human retrovirus that causes T-cell leukemia and lymphoma) and HIV-1 expression in infected cells (Balestrieri et al., 2011).

Abscess

see Oral Conditions:Abscess

Abuse

Abuse is the harmful treatment or use of something or someone. Abuse has many different forms: physical, sexual, verbal, spiritual, psychological, etc. Abuse in all of its forms often has long-lasting negative effects on the person or thing abused.

Oils: ⊖Joyful Blend, ⊖lavender, ⊖melissa, ⊖sandalwood

⊖: Apply oil topically over the heart, rub on each ear, and then cup hands and inhale deeply to help release negative emotions associated with abuse.

Acne

Acne is a skin condition, generally of the face, commonly found in adolescents and young adults. Acne is characterized by red, irritating blemishes (pimples) on the skin. Most commonly, acne is found on the oil-producing parts of the body such as the face, chest, back, upper arms, and back of neck. Acne is a blockage of a skin pore by dead skin cells, tiny hairs, and oil secreted by the sebaceous glands located near the hair follicles in the face, neck, and back. This blockage occurs deep within the skin. Acne is not currently believed to be caused by dirt on the face or by eating certain foods, and research has indicated that over-scrubbing the face may actually make acne worse.

Oils: ⊖Topical Blend, ⊖melaleuca, ⊖juniper berry, ⊖lavender, ⊖cedarwood, ⊖geranium, ⊖sandalwood, ⊖thyme, ⊖vetiver, ⊖lemon, ⊖lemongrass, ⊖marjoram, ⊖patchouli

Other Products: ⊖Topical Face Wash and ⊖Topical Facial Lotion

—Infectious:

Oils: ⊖Topical Blend, ⊖melaleuca, ⊖clove

Other Products: ⊖Topical Face Wash and ⊖Topical Facial Lotion

⊖: Dilute as recommended, and apply one of the above oils on location. Place about 10 drops of an oil in a 1–2 ounce spray bottle filled with water, and mist your face several times per day.

Additional Research:

Melaleuca: Tea tree oil and several of its main components were found to be active against Propionibacterium acnes, a bacteria involved in the formation of acne. This oil was also found to be active against two types of staphylococcus bacteria (Raman et al., 1995).

Melaleuca: A topical gel containing 5% tea tree oil was found to be more effective than a placebo at preventing acne lesions and severity in patients suffering from acne vulgaris (Enshaieh et al., 2007).

Melaleuca: A gel with 5% tea tree oil was found to be as effective as a 5% benzoyl peroxide (a common chemical used to treat acne) lotion, with fewer side effects (Bassett et al., 1990).

Addictions

Addiction is an obsession, compulsion, or extreme psychological dependence that interferes with an individual's ability or desire to function normally. Common addictions include drugs, alcohol, coffee, tobacco, sugar, video games, work, gambling, money, explicit images, compulsive overeating, etc.

—Alcohol:

Oils: rosemary, Cleansing Blend, Calming Blend, juniper berry, helichrysum, lavender, orange

—Drugs:

Oils: Cleansing Blend, Calming Blend, grapefruit (withdrawal), lavender, basil, eucalyptus, marjoram, orange, sandalwood, Roman chamomile, wintergreen

—Smoking:

Oils: black pepper, clove or Protective Blend on tongue

—Sugar:

Oils: Cleansing Blend, Calming Blend

—Withdrawal:

Oils: lavender, grapefruit, orange, sandalwood, marjoram

—Work:

Oils: lavender, basil, marjoram, geranium

: Diffuse into the air. Inhale the aroma of the oil directly.

: Dilute as recommended, and apply to temples or to reflex points.

: **Additional Research:**

Grapefruit and orange: Injection of limonene, a common terpene found in many citrus essential oils, inhibited behavioral manifestations of drug use on rats administered methamphetamine (METH). Examination of the nucleus accumbens of the rats revealed that limonene may produce its effects by regulating dopamine levels and serotonin receptor function (Yun, 2014).

Black pepper: Inhaled vapor of black pepper oil was found to reduce cravings for cigarettes and symptoms of anxiety in smokers deprived from smoking, compared to a control (Rose et al., 1994).

Addison's Disease

see Adrenal Glands:Addison's Disease

Adenitis

Adenitis is an acute or chronic inflammation of the lymph glands or lymph nodes.

Oils: rosemary

: Dilute as recommended, and apply on location.

Adrenal Glands

The adrenal glands are two small glands located on top of the kidneys. The inner part of the adrenal gland, called the medulla, is responsible for producing adrenalin, a hormone that helps control blood pressure, heart rate, and sweating. The outer part of the adrenal gland, called the cortex, is responsible for producing corticosteroids, hormones that help control metabolism and help regulate inflammation, water levels, and levels of electrolytes such as sodium and potassium. An imbalance in adrenal function can lead to problems such as Addison's disease (a lack of adrenal hormones in the body due to suppressed adrenal functioning) or Cushing's syndrome (an over-abundance of corticosteroids, typically due to over-active adrenal functioning).

Oils: basil, rosemary, clove, Joyful Blend

Other Products: Cellular Vitality Complex, Food Nutrient Complex, Chewable Multivitamin, Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Omega-3 Fish Oil

—Addison's Disease:

Addison's disease is a condition where the function of the adrenal glands is either severely limited or completely shut down in their ability to produce hormones. This is most often caused by an autoimmune disorder where the body's own immune system attacks the cells in the adrenal glands, but it can also be caused by cancer, tuberculosis, or other diseases. The loss of hormones from the adrenal cortex can cause extreme dehydration due to fluid loss and low levels of sodium. Early symptoms can include tiredness, dizziness when standing up, thirst, weight loss, and dark patches of pigmentation appearing on the skin. If untreated, this disease can eventually lead to kidney failure, shock, and death.

Oils: Joyful Blend

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

Other Products: Food Nutrient Complex , Cellular Vitality Complex (for cellular support), Chewable Multivitamin, Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Omega-3 Fish Oil

—Cushing's Syndrome:

Cushing's syndrome is a condition where there is an over-abundance of corticosteroids (such as cortisol) in the body, typically caused by an over-production of these steroids by the adrenal glands. This over-production in the adrenal glands can be caused by a growth in the adrenal glands or by a tumor in the thyroid leading to the production of too much corticotropin (the hormone that stimulates production of corticosteroids in the adrenal gland). This syndrome can also be caused by taking artificial cortisone or cortisone-like substances. Symptoms of excessive corticosteroids include weight gain, muscle loss, and weakness, bruising, and osteoporosis.

Oils: Joyful Blend, lemon, basil, Protective Blend

Other Products: Food Nutrient Complex , Cellular Vitality Complex (for cellular support), Chewable Multivitamin, Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Omega-3 Fish Oil

—Schmidt's Syndrome *(Polyglandular Deficiency Syndrome (or Autoimmune Polyendocrine Syndrome) Type 2):*

This syndrome refers specifically to an autoimmune disorder that causes Addison's disease as well as decreased thyroid function. See *Addison's Disease* (above) and *Thyroid: Hypothyroidism* for oils and products to help support the adrenal glands and thyroid.

Stimulate glands: basil, rosemary, clove, geranium

Strengthen glands: peppermint

⊖: Apply as a warm compress over kidney area. Dilute as recommended, and apply on location or on reflex points on the feet.

○: Take capsules as directed on package.

Aging

See also Alzheimer's Disease, Antioxidant, Cells, Female-Specific Conditions:Menopause, Hair:Loss, and Skin:Wrinkles for other age-related issues.

Oils: Cellular Complex, Anti-Aging Blend, lemon, frankincense, sandalwood

Other Products: Anti-Aging Moisturizer, Youthful Skin Cleanser, Youthful Skin Toner, Youthful Hydrating Serum, Youthful Moisturizing Lotion, Facial Cleanser, Invigorating Scrub, Skin Toner, Skin Serum. Energy & Stamina Complex, Cellular Vitality Complex, Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Omega-3 Fish Oil, Food Nutrient Complex, Probiotic Defense Formula

○: Take oil with food, or take capsules as directed on package.

⊖: Dilute as recommended, and apply to skin. Combine with carrier oil, and massage into skin.

⊘: Diffuse, or inhale from a tissue or cotton wick.

: **Additional Research:**

Lemon: Based on lemon essential oil's acetylcholinesterase inhibitory activity, butyrylcholinesterase inhibitory activity, and antioxidant power, this essential oil could be used in the management and/or prevention of neurodegenerative conditions like Alzheimer's disease (Oboh et al., 2014).

Lemon: A study using mice demonstrated that pretreatment with lemon essential oil causes an increase in antioxidant enzymatic activities and decreased lipid degradation in the hippocampus (Campelo et al., 2011). Antioxidant and bioprotective activities, like that of lemon essential oil, can reduce damage to neurons produced by neurodegenerative disease (Campelo et al., 2011).

Agitation

see Calming

Airborne Bacteria

see Antibacterial

Air Pollution

Air Pollution is the presence in the atmosphere of chemicals, biological material, or other matter that can potentially harm humans, the environment, or other living organisms.

Oils: Cleansing Blend, Protective Blend, lemon, lemongrass, peppermint, rosemary, eucalyptus, cypress, grapefruit

—Disinfectants:

Oils: Cleansing Blend, lemon, eucalyptus, clove, grapefruit, peppermint, wintergreen

Blend 1: Combine lemongrass and geranium oil, and diffuse into the air.

: Diffuse into the air.

: **Additional Research:**

Blend 1: A formulation of lemongrass and geranium oil was found to reduce airborne bacteria by 89% in an office environment after diffusion for 15 hours (Doran et al., 2009).

Alcoholism

see Addictions:Alcohol

Alertness

Alertness is the state of being watchful or paying close attention. It includes being prepared to react quickly to danger, emergencies, or any other situation.

Oils: peppermint, ylang ylang, lemon, basil, rosemary

: Diffuse into the air. Inhale oil applied to a tissue or cotton wick.

: Dilute as recommended, and apply to the temples and bottoms of the feet.

: **Additional Research:**

Peppermint: In human trials, the aroma of peppermint was found to enhance memory and increase alertness (Moss et al., 2008).

Ylang ylang: Inhaled ylang ylang oil was found to decrease blood pressure and pulse rate and to enhance attentiveness and alertness in volunteers compared to an odorless control (Hongratanaworakit et al., 2004).

Allergies

An allergy is a damaging immune system response to a substance that does not bother most other people. Common allergies are to food, insect bites, pollen, dust, medicine, pets, and mold. Allergy symptoms vary greatly, but common allergic responses include itching, swelling, runny nose, asthma, and sneezing. Both host factors (gender, race, heredity) and environmental factors can cause allergies.

Oils: melaleuca, lavender, lemon, peppermint, Roman chamomile, melissa, patchouli, eucalyptus

Other Products: Seasonal Blend Softgels, Respiratory Lozenge Drops, Food Nutrient Complex , Cellular Vitality Complex, Chewable Multivitamin

—Coughing:

Oils: Cleansing Blend

—Hay Fever

Oils: lavender, eucalyptus, rose, peppermint

Recipe 1: Apply 1 drop of peppermint on the base of the neck two times a day. Tap the thymus (located just below the notch in the neck) with pointer fingers. Diffuse peppermint.

Recipe 2: For allergy rashes and skin sensitivity, apply 3 drops lavender, 6 drops Roman chamomile, 2 drops myrrh, and 1 drop peppermint on location.

: Dilute as recommended, and apply to sinuses and to bottoms of feet.

: Diffuse into the air. Inhale oil applied to a tissue or cotton wick.

: **Additional Research:**

Melaleuca: Tea tree oil was found to reduce swelling during a contact hypersensitivity response in the skin of mice sensitized to the chemical hapten (Brand et al., 2002).

Melaleuca: Tea tree oil applied to histamine-induced edema (swelling) in mice ears was found to significantly reduce swelling (Brand et al., 2002).

Melaleuca: Tea tree oil applied to histamine-induced weal and flare in human volunteers was found to decrease the mean weal volume when compared to a control (Koh et al., 2002).

Lavender: Lavender oil was found to inhibit immediate-type allergic reactions in mice and rats by inhibiting mast cell degranulation (Kim et al., 1999).

Lemon: A study including 100 patients (ages 3 to 79) suffering from vasomotor allergic rhinopathy, showed that topical application of a citrus lemon based spray resulted in a total reduction of eosinophils granulocytes and mast cells. These results suggest that the lemon-based nasal spray is a good alternative to conventional medicine for the treatment of perennial and seasonal allergic and vasomotor rhinopathy (Ferrara et al., 2012).

Peppermint: L-menthol (from peppermint) was found to inhibit production of inflammation mediators in human monocytes (a type of white blood cell involved in the immune response) (Juergens et al., 1998).

Alzheimer's Disease

see also Brain, Memory

Alzheimer's is a progressive and fatal disease that attacks and kills brain cells, causing a loss of memory and other intellectual capacities. Alzheimer's is most commonly diagnosed in individuals over the age of 65. As the disease progresses, sufferers often experience mood swings, long-term memory loss, confusion, irritability, aggression, and a decreased ability to communicate.

Oils: coriander, lemon

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

Supplements: ○Energy & Stamina Complex, ○Cellular Vitality Complex

—Blood-Brain Barrier:

Studies have shown that sesquiterpenes can pass the blood-brain barrier. Oils high in sesquiterpenes include sandalwood, ginger, myrrh, vetiver, ylang ylang, and frankincense.

Oils: ⊘○frankincense, ⊘○sandalwood

○: Take oils in capsules. Take supplements as directed on package.

⊘: Diffuse oils into the air.

⊖: Dilute as recommended, and apply over brain stem area on back of neck.

⚗: **Additional Research:**

Coriander: Inhalation of coriander volatile oil was found to possess antianxiety, antidepressant, and antioxidant properties in Alzheimer's disease conditions in a rat model of beta-amyloid Alzheimer's disease (Cioanca et al., 2014).

Coriander: Repeated inhalation of coriander oil was found to prevent memory impairment and oxidative damage in a rat model of beta-amyloid Alzheimer's disease, when compared to control (Cioanca et al., 2013).

Lemon: Based on lemon essential oil's acetylcholinesterase inhibitory activity, butyrylcholinesterase inhibitory activity, and antioxidant power, this essential oil could be used in the management and/or prevention of neurodegenerative conditions like Alzheimer's disease (Oboh et al., 2014).

Cellular Vitality Complex: In a recent study at UCLA, the polyphenol curcumin was found to inhibit amyloid beta accumulation and to cross the blood-brain barrier of mice and bind amyloid plaques. Amyloid beta plaques are theorized to have a role in the development of Alzheimer's disease (Yang et al., 2005).

Cellular Vitality Complex: Curcumin was found to reduce the effects of amyloid beta-caused oxidative stress and DNA damage in neuronal cells (Park et al., 2008).

Sandalwood: A blend of ethanol extracts from 8 herbs, including sandalwood, orally administered to a mice model of Alzheimer's disease was shown to improve amyloid β protein-induced memory impairment, suppress amyloid β protein levels, and diminish plaque deposition in the brain as much as that of donepezil treatment. This study suggests that the 8-herb blend may develop as a therapeutic drug for treatment of Alzheimer's disease patients (Jeon et al., 2011).

Cinnamon: An aqueous cinnamon extract was found to inhibit beta-amyloid oligomer and fibril formation and alleviate Alzheimer's disease symptoms in the Drosophila and mouse models of Alzheimer's disease (Frydman-Marom et al., 2011).

Amnesia

see Memory

Analgesic

see Pain

Aneurysm

see also Blood

An Aneurysm is a swelling or dilation of a blood vessel in the area of a weakened blood vessel wall.

Oils: ⊖⊘cypress, ⊖⊘melaleuca, ⊖⊘clary sage, ⊖⊘helichrysum, ⊖⊘frankincense

Blend 1: Combine 5 drops frankincense, 1 drop helichrysum, and 1 drop cypress. Diffuse.

Herbs: Cayenne pepper, garlic, hawthorn berry

⊖: Dilute as recommended, and apply to temples, heart, and reflex points for heart on the feet.

⊘: Diffuse into the air. Inhale oil applied to a tissue or cotton wick.

Anger

see Calming

Angina

see Cardiovascular System:Angina

Animals

Only 1–2 drops of oil are necessary on most animals, as they respond more quickly to the oils than do humans. Fractionated coconut oil can be added to extend the oil over larger areas and to heavily dilute the essential oil for use on smaller animals, especially cats.

—Bleeding:

Oils: ⊖helichrysum, ⊖geranium

—Bones (Pain):

Oils: ⊖wintergreen, ⊖Soothing Blend, ⊖lemongrass

—Calm:

Oils: ⊘⊖Calming Blend, ⊘⊖lavender, ⊘⊖Invigorating Blend

—Cancer, Skin

Oils: ⊖sandalwood, ⊖frankincense

—Cats:

Valerie Worwood says that you can treat a cat like you would a child (*see* Children/Infants). Dilute oils heavily with carrier oil. ***Avoid melaleuca, and use oils with extreme caution.***

—Colds and Coughs:

Oils: ⊖eucalyptus, ⊖melaleuca (not for cats). Apply on fur or stomach.

—Cows:

Oils: For scours, use 5 drops Digestive Blend on stomach (dilute with fractionated coconut oil to cover a larger area). Repeat 2 hours later.

—Dogs:

–Anxiety/Nervousness

Oils: Calming Blend, lavender, Grounding Blend. Rub 1–2 drops between hands, and apply to muzzle, between toes, on tops of feet for the dog to smell, and on edges of ears.

–Arthritis:

Oils: frankincense

Blend 1: Blend equal parts rosemary, lavender, and ginger. Dilute with fractionated coconut oil, and apply topically on affected joints.

–Bone Injury:

Oils: wintergreen

–Dermatitis:

Oils: melaleuca. Note: Some adverse effects have been reported with the use of larger amounts of melaleuca oil on some species of dogs. Contact a veterinarian before using melaleuca on a dog. For smaller dogs, use only a small amount of oil, heavily diluted.

–Heart Problems:

Oils: peppermint (on paws), Protective Blend (apply on back with warm compress)

–Sleep:

Oils: lavender (on paws), Calming Blend (on stomach)

–Stroke:

Oils: frankincense (on brain stem/back of neck), Grounding Blend (on each paw)

–Ticks and Bug Bites:

Oils: Cleansing Blend (drop directly on tick, or dilute and apply to wound)

–Travel Sickness:

Oils: peppermint (dilute, and rub on stomach)

—Earache:

Blend 2: Combine 1 drop melaleuca, 1 drop lavender, and 1 drop Roman chamomile in 1 tsp. fractionated coconut oil. Apply 1–2 drops to inside and outside of ear.

—Ear Infections:

Oils: Cleansing Blend. Dip cotton swab in oil, and apply to inside and front of ear.

—Fleas:

Oils: lemongrass, eucalyptus. Add 1–2 drops of oil to shampoo.

—Horses:

–Anxiety/Nervousness

Oils: Calming Blend. Rub 1–2 drops between hands, and apply to nose, knees, tongue, and front of chest.

–Hoof Rot:

Blend 3: Combine 1 drop Roman chamomile, 1 drop thyme, and 1 drop melissa in 1 tsp. fractionated coconut oil, and apply on location.

–Infection:

Oils: Protective Blend

–Leg Fractures:

Oils: ginger. Dilute oil, and apply oil to leg with a hot compress wrapped around the leg. Massage leg after the fracture is healed with a blend of rosemary and thyme diluted with fractionated coconut oil. This may strengthen the ligaments and prevent calcification.

–Muscle Tissue

Oils: Apply equal parts lemongrass and lavender on location, and wrap to help regenerate torn muscle tissue.

–Wounds:

Oils: helichrysum

—Parasites:

Oils: lavender, Digestive Blend, cedarwood. Rub on paws to help release parasites.

●: Apply as directed above. Dilute as recommended, and apply on location.

⊘: Diffuse into the air.

◯: **Additional Research:**

Sandalwood: Sandalwood oil was found to decrease skin papilloma (tumors) in mice (Dwivedi et al., 1997).

Sandalwood: Alpha-santalol, derived from sandalwood EO, was found to delay and decrease the incidence and multiplicity of skin tumor (papilloma) development in mice (Dwivedi et al., 2003).

Sandalwood: Various concentrations of alpha-santalol (from sandalwood) were tested against skin cancer in mice. All concentrations were found to inhibit skin cancer development (Dwivedi et al., 2005).

Sandalwood: A solution of 5% alpha-santalol (from sandalwood) was found to prevent skin-tumor formation caused by ultraviolet-b (UVB) radiation in mice (Dwivedi et al., 2006).

Sandalwood: Oral sandalwood oil use enhanced GST activity (a protein in cell membranes that can help eliminate toxins) and acid-soluble SH levels. This suggests a possible chemopreventive action on carcinogenesis (Banerjee et al., 1993).

Sandalwood: Pre-treatment with alpha-santalol before UVB (ultraviolet-b) radiation significantly reduced skin tumor development and multiplicity and induced proapoptotic and tumor-suppressing proteins (Arasada et al., 2008).

Frankincense: An acetone extract of frankincense was found to decrease arthritic sores, reduce paw edema (swelling), and suppress pro-inflammatory cytokines (cellular messengers) (Fan et al., 2008).

Melaleuca: A cream with 10% tea tree oil was found to be more effective at treating dermatitis in dogs than a commercially-available skin cream (Reichling et al., 2004).

Lime, Lavender, Marjoram, Oregano, Peppermint, Helichrysum: Malacalm®, a commercially available mixture containing lime, lavender, marjoram, oregano, peppermint, and helichrysum essential oils, was clinically successful at treating *Malassezia pachydermatis* (a fungal skin infection) in dogs (Nardoni et al., 2014).

Oregano: Four out of seven cats with the fungus mycoses (*Microsporum canis*) recovered both clinically and culturally with topical application of diluted oregano oil for a month (Mugnaini et al., 2012).

Anorexia

see Eating Disorders:Anorexia

Antibacterial

see also Disinfectant

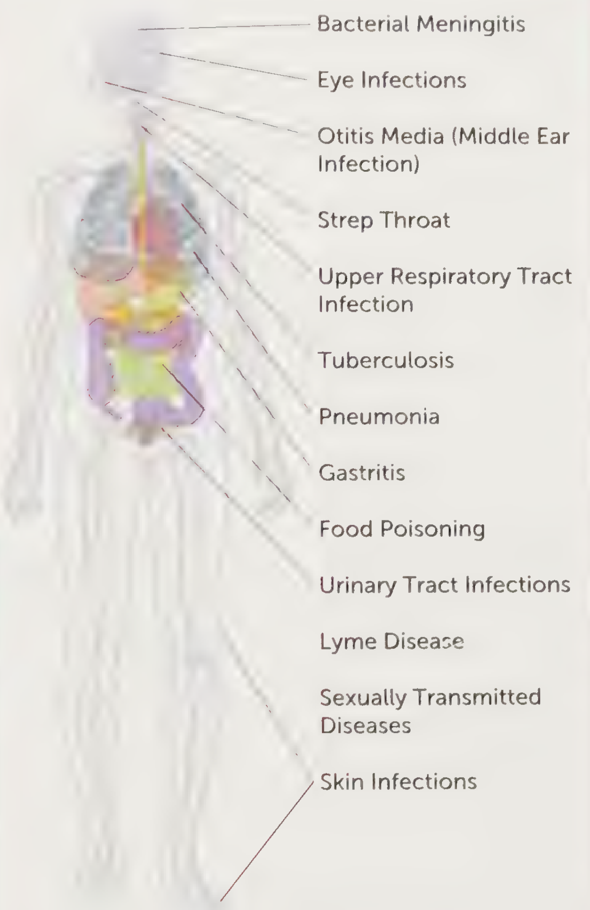
The term antibacterial refers to anything that kills bacteria or that limits its ability to grow or reproduce.

Oils: O⊖Protective Blend, ⊖melaleuca, ⊖⊘thyme, ⊖⊘cinnamon, ⊖peppermint, ⊘⊖Cleansing Blend, ⊖⊘lime, ⊖⊘lemongrass, ⊖helichrysum, ⊖⊘geranium, ⊖rosemary, ⊖⊘clove, ⊖oregano, ⊘Respiratory Blend, ⊖cypress, ⊖arborvitae, ⊖cedarwood, ⊖basil, ⊖cassia, ⊖⊘lemon, ⊖eucalyptus, ⊖grapefruit, ⊖marjoram, ⊖clary sage, ⊖lavender, ⊖frankincense, ⊖juniper berry

Blend 1: For an antibiotic blend, place 12 drops of Protective Blend, 6 drops oregano, and 2 drops frankincense in a size "00" capsule, and ingest every 4–8 hours.

Other Products: OProtective Softgels, ⊖Protective Hand Wash & ⊖Essential Ointment to help eliminate bacteria on the skin, ⊖Protective Cleaner to help eliminate bacteria from household surfaces, OProbiotic Defense Formula, OGI Cleansing Formula to help support the intestinal tract against harmful bacteria.

Common Bacterial Infections



—Airborne Bacteria:

Oils: ⊘cinnamon, ⊘lemongrass, ⊘geranium, ⊘Protective Blend, ⊘Cleansing Blend, ⊘oregano

—Cleansing:

Oils: Cleansing Blend

—MRSA (Methicillin Resistant *Staphylococcus aureus*):

Oils: melaleuca, oregano, geranium, Protective Blend, frankincense, peppermint, lemon, thyme, cinnamon, clove, eucalyptus, lemongrass, orange, grapefruit, lavender

Recipe 1: Place 2–5 drops each of oregano, Protective Blend, and frankincense (followed by lemon and peppermint) on bottoms of feet every 2 hours.

—Staph (*Staphylococcus aureus*) Infection:

Oils: Protective Blend, melaleuca, oregano, helichrysum, thyme, geranium, Cleansing Blend, lavender Note: peppermint may make a staph infection more painful.

Other Products: Protective Softgels

: Dilute as recommended, and apply on location. Dilute and apply to liver area and bottoms of the feet. Use hand wash as directed on packaging.

: Place 1–2 drops of oil under the tongue, or place oils in empty capsules and swallow. Take supplements as directed.

: Diffuse into the air. Combine a few drops in a small spray bottle with distilled water, and spray into the air.

Additional Research:

Melaleuca: Tea tree oil was found to disrupt the cellular membrane and inhibited respiration in Candida albicans, Gram-negative E. coli, and Gram-positive Staphylococcus aureus (Staph) (Cox et al., 2000).

Melaleuca: In a human trial, most patients receiving treatment with Melaleuca alternifolia oil placed topically on boils experienced healing or reduction of symptoms; while of those receiving no treatment (control), half required surgical intervention, and all still demonstrated signs of the infection (Feinblatt et al., 1960).

Melaleuca: Gram-positive strains of Staphylococcus aureus and Enterococcus faecalis were shown to have very low frequencies of resistance to tea tree oil (Hammer et al., 2008).

Melaleuca: Tea tree, peppermint, and sage oils were found to inhibit oral bacteria, with thymol and eugenol being the most active components of these oils (Shapiro et al., 1994).

Melaleuca: Cinnamon oil exhibited a strong antimicrobial activity against two detrimental oral bacteria. Manuka, tea tree, and the component thymol also exhibited antimicrobial potency (Filoche et al., 2005).

Melaleuca: MRSA (methicillin-resistant staph) and MSSA (methicillin-sensitive staph) in biofilms (plaque/microcolonies) were eradicated by a 5% solution of tea tree oil, as were 5 of 9 CoNS (coagulase-negative staph) (Brady et al., 2006).

Melaleuca: 66 isolates of Staphylococcus aureus (Staph), including 64 methicillin-resistant (MRSA) and 33 mupirocin-resistant strains, were inhibited by tea tree essential oil (Carson et al., 1995).

Melaleuca: A combination of Citricidal and geranium oil demonstrated strong antibacterial effects on MRSA. Geranium and tea tree demonstrated strong antibacterial effects on Staphylococcus aureus (Edwards-Jones et al., 2004).

Melaleuca: Tea tree oil and its component terpinen-4-ol demonstrated antibacterial activity against Staphylococcus aureus (Staph) bacteria, superior to the activities of several antibiotic drugs—even against antibiotic-resistant strains (Ferrini et al., 2006).

Melaleuca: Tea tree oil demonstrated ability to kill Staphylococcus aureus (Staph) bacteria both within biofilms and in the stationary growth phase at concentrations below 1% (Kwieciński et al., 2009).

Melaleuca: Turpin-4-ol, found in tea tree oil, was found to effectively inhibit MRSA and CoNS, while not exhibiting toxicity to human fibroblast cells (Loughlin et al., 2008).

Thyme: Tea tree, peppermint, and sage oils were found to inhibit oral bacteria, with thymol and eugenol being the most active components of these oils (Shapiro et al., 1994).

Thyme: Cinnamon oil exhibited a strong antimicrobial activity against two detrimental oral bacteria. Manuka, tea tree, and the component thymol also exhibited antimicrobial potency (Filoche et al., 2005).

Thyme: Cinnamon bark, lemongrass, and thyme oils were found to have the highest level of activity against common respiratory pathogens among 14 essential oils tested (Inouye et al., 2001).

Thyme: Thyme oil demonstrated a strong antibacterial effect against Staph and E. coli bacteria (Mohsenzadeh et al., 2007).

Thyme: Oils with aldehydes or phenols as major components demonstrated a high level of antibacterial activity (Inouye et al., 2001).

Cinnamon: Cinnamon oil exhibited a strong antimicrobial activity against two detrimental oral bacteria. Manuka, tea tree, and the component thymol also exhibited antimicrobial potency (Filoche et al., 2005).

Cinnamon: Cinnamon bark, lemongrass, and thyme oils were found to have the highest level of activity against common respiratory pathogens among 14 essential oils tested (Inouye et al., 2001).

Peppermint: Tea tree, peppermint, and sage oils were found to inhibit oral bacteria, with thymol and eugenol being the most active components of these oils (Shapiro et al., 1994).

Peppermint: Peppermint and spearmint oil inhibited resistant strains of Staphylococcus, E. coli, Salmonella, and Helicobacter pylori (Imai et al., 2001).

Peppermint: Peppermint and rosemary oils were each found to be more effective at preventing dental biofilm (plaque) formation than chlorhexidine (an antiseptic) (Rasooli et al., 2008).

Lemongrass: Cinnamon bark, lemongrass, and thyme oils were found to have the highest level of activity against common respiratory pathogens among 14 essential oils tested (Inouye et al., 2001).

Lemongrass: A formulation of lemongrass and geranium oil was found to reduce airborne bacteria by 89% in an office environment after diffusion for 15 hours (Doran et al., 2009).

Lemongrass: Lemongrass and lemon verbena oil were found to be bactericidal to Helicobacter pylori at very low concentrations. Additionally, it was found that this bacteria did not develop a resistance to lemongrass oil after 10 passages, while this bacteria did develop resistance to clarithromycin (an antibiotic) under the same conditions (Ohno et al., 2003).

Helichrysum: Helichrysum oil was found to exhibit definite antibacterial activity against six tested Gram (+/-) bacteria (Chinou et al., 1996).

Helichrysum: Helichrysum was found to inhibit both the growth and some of the enzymes of the Staphylococcus aureus (staph) bacteria (Nostro et al., 2001).

Geranium: A combination of Citricidal and geranium oil demonstrated strong antibacterial effects on MRSA. Geranium and tea tree demonstrated strong antibacterial effects on Staphylococcus aureus (Edwards-Jones et al., 2004).

Geranium: A formulation of lemongrass and geranium oil was found to reduce airborne bacteria by 89% in an office environment after diffusion for 15 hours (Doran et al., 2009).

Rosemary: Peppermint and rosemary oils were each found to be more effective at preventing dental biofilm (plaque) formation than chlorhexidine (an antiseptic) (Rasooli et al., 2008).

Oregano: Oregano oil was found to inhibit MRSA (Nostro et al., 2004).

Cypress: Cypress essential oil was found to possess antibacterial activity against *Staphlococcus aureus, Klebsiella pneumoniae,* and *Salmonella indica* when tested for antimicrobial properties against 13 microorganisms (Selim et al., 2014).

Cassia: Cinnamaldehyde, the main constituent of cassia oil, showed strong growth inhibiting activity toward five human intestinal bacteria in vitro (Lee et al., 1998).

Arborvitae: Arborvitae essential oil vapor and liquid displayed bactericidal activity against seven bacteria (including three Gram-positive organisms, Bacillus subtilis, Streptococcus pyogenes, and Enterococcus fecalis, and four Gram-negative organisms, Acinetobacter baumannii, Hemophilus influenzae, Salmonella enteritidis, and Escherichia coli) as well as the bacterial spores of Bacillus subtilis (Hudson et al., 2011).

Lavender: Scanning electron microscopy analysis and zeta potential measurement revealed that lavender essential oil's antibacterial action against multi-drug-resistant *Escherichia coli* occurs via two mechanisms: alteration of outer membrane permeability and possible inhibition of bacterial quorum sensing (Yap et al., 2014).

Anticatarrhal

see Congestion:Catarrh

Anticoagulant

see Blood:Clots

Antidepressant

see Depression

Antifungal

Fungi are a broad range of organisms such as yeast, mold, and mushrooms. While many fungi are safe and beneficial, some create mycotoxins, which are chemicals that can be toxic to plants, animals, and humans. Examples of fungi that can be detrimental to humans include black mold, *Candida*, and ringworm.

Oils: melaleuca, oregano, thyme, cinnamon, clove, Protective Blend, arborvitae, lavender, peppermint, rosemary, lemon, Cleansing Blend, patchouli, lemongrass, juniper berry, geranium

Other Products: Protective Hand Wash, Protective Cleaner, Probiotic Defense Formula, GI Cleansing Formula

—Athlete's Foot:

Athlete's foot (tinea pedis) is a fungal infection that develops on the skin of the feet. This infection causes itching, redness, and scaling of the skin, and in severe cases it can cause painful blistering or cracking of the skin.

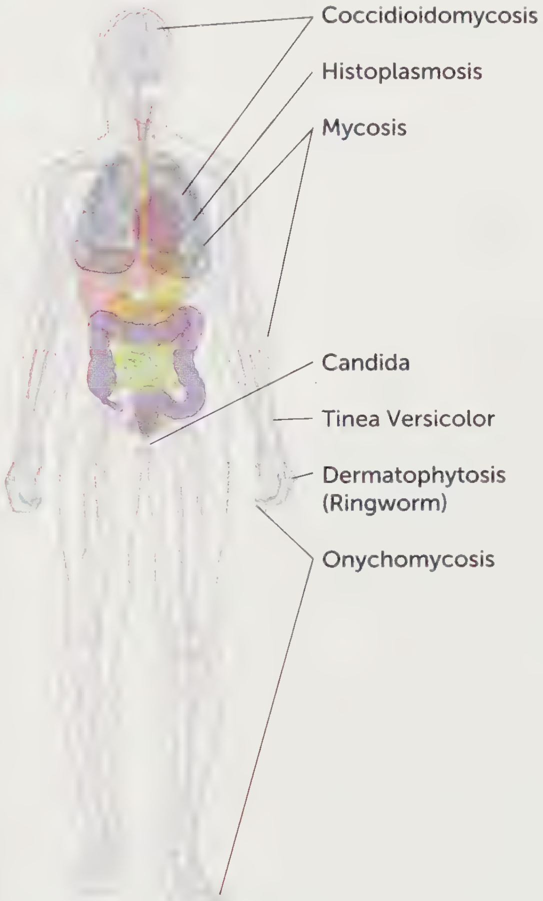
Oils: melaleuca, oregano, cypress, thyme, geranium, lavender

—Candida:

Candida refers to a genus of yeast that are normally found in the digestive tract and on the skin of humans. These yeast are typically symbiotically beneficial to humans. However, several species of *Candida*, most commonly *Candida albicans*, can cause infections such as vaginal candidiasis or thrush (oral candidiasis) that cause localized itching, soreness, and redness *(see* Vaginal:Candida *for further application methods)*. In immune-system compromised individuals, these infection-causing species of *Candida* can spread further, leading to serious, life-threatening complications.

Oils: melaleuca, oregano, clove, Protective Blend, peppermint, thyme, dill, cilantro, lavender, eucalyptus, rosemary, Digestive Blend

Common Fungal Infections



—Mold:

Mold are a type of microscopic multi-cellular fungi that grow together to form filaments. Mold is found throughout the world and can survive in extreme conditions. While most mold does not adversely affect humans, an over-abundance of mold spores can cause allergies or other problems within the respiratory system. Additionally, some types of mold produce toxins that can be harmful to humans or to animals.

Oils: Protective Blend, clove, thyme, cinnamon, oregano, rosemary, Cleansing Blend

—Ringworm:

Ringworm (or tinea) is a fungal infection of the skin that can cause itching, redness, and scaling of the skin. The name comes from the ring-shaped patches that often form on the skin.

Oils: melaleuca, oregano, peppermint, thyme, bergamot, geranium, lavender

Blend 1: Combine 2 drops lavender, 2 drops melaleuca, and 2 drops thyme. Apply 1–2 drops on ringworm three times a day for 10 days. Then mix 30 drops melaleuca with 2 Tbs. fractionated coconut oil, and use daily until ringworm is gone.

—Thrush:

Thrush is another name for oral candidiasis (*see Candida above*). Thrush results in uncomfortable or painful white or yellow patches in the mouth.

Oils: melaleuca, lavender, eucalyptus, marjoram, thyme

: Dilute as recommended, and apply on location. Apply as a warm compress over affected area.

: Diffuse into the air.

: Take capsules as directed on package.

: **Additional Research:**

Melaleuca: Tea tree oil was found to inhibit 301 different types of yeasts isolated from the mouths of cancer patients suffering from advanced cancer, including 41 strains that are known to be resistant to antifungal drugs (Bagg et al., 2006).

Melaleuca: Eleven types of Candida were found to be highly inhibited by tea tree oil (Banes-Marshall et al., 2001).

Melaleuca: Tea tree oil was found to disrupt the cellular membrane and to inhibit respiration in Candida albicans (Cox et al., 2000).

Melaleuca: Melaleuca oil at concentrations of .16% was found to inhibit the transformation of C. albicans from single-cell yeast to the pathogenic mycelial (multi-cellular strands) form (D'Auria et al., 2001).

Melaleuca: Tea Tree oil was found to alter the membrane properties and functions of Candida albicans cells, leading to cell inhibition or death (Hammer et al., 2004).

Melaleuca: Terpinen-4-ol, a constituent of tea tree oil, and tea tree oil were found to be effective against several forms of vaginal Candida infections in rats, including azole-resistant forms (Mondello et al., 2006).

Melaleuca: Melaleuca oil inhibited several Candida species in vitro (Vazquez et al., 2000).

Melaleuca: Patients with tinea pedis (athlete's foot) were found to have a higher rate of cure and a higher clinical response when treated topically with 25 or 50% tea tree oil solution compared to control (Satchell et al., 2002).

Melaleuca: When applied as a coating to protect oranges after harvest, a mixture containing chitosan and melaleuca essential oil was found to reduce fungal growth by 50% (Cháfer et al., 2012).

Oregano: In a test of nine oils, clove, followed by cinnamon, oregano, and mace oil, was found to be inhibitory to two toxin-producing fungi. It was also shown that whole and ground cloves stored with grain reduced the amount of aflatoxin contamination (Juglal et al., 2002).

Oregano: The vapor of oregano oil was found to be fungicidal against the Trichophyton mentagrophytes fungi (a fungi that causes a skin infection known as Malabar itch) (Inouye et al., 2006).

Oregano: Mice infected with Candida albicans who were fed origanum oil or carvacrol diluted in olive oil had an 80% survival rate after 30 days, while infected mice fed olive oil alone all died after 10 days (Manohar et al., 2001).

Oregano: Cinnamon, thyme, oregano, and cumin oils inhibited the production of aflatoxin by aspergillus fungus (Tantaoui-Elaraki et al., 1994).

Thyme: Cinnamon, thyme, oregano, and cumin oils inhibited the production of aflatoxin by aspergillus fungus (Tantaoui-Elaraki et al., 1994).

Thyme: Thyme oil was found to inhibit Candida species by causing lesions in the cell membrane, as well as inhibiting germ tube (an outgrowth that develops when the fungi is preparing to replicate) formation (Pina-Vaz et al., 2004).

Thyme: Eugenol from clove and thymol from thyme were found to inhibit the growth of Aspergillus flavus and Aspergillus versicolor at concentrations of .4 mg/ml or less (Hitokoto et al., 1980).

Cinnamon: In a test of nine oils, clove, followed by cinnamon, oregano, and mace oil, was found to be inhibitory to two toxin-producing fungi. It was also shown that whole and ground cloves stored with grain reduced the amount of aflatoxin contamination (Juglal et al., 2002).

Cinnamon: Cinnamon, thyme, oregano, and cumin oils inhibited the production of aflatoxin by aspergillus fungus (Tantaoui-Elaraki et al., 1994).

Cinnamon: Vapor of cinnamon bark oil and cinnamic aldehyde was found to be effective against fungi involved in respiratory tract mycoses (fungal infections) (Singh et al., 1995).

Clove: In a test of nine oils, clove, followed by cinnamon, oregano, and mace oil, was found to be inhibitory to two toxin-producing fungi. It was also shown that whole and ground cloves stored with grain reduced the amount of aflatoxin contamination (Juglal et al., 2002).

Clove: Eugenol from clove and thymol from thyme were found to inhibit the growth of Aspergillus flavus and Aspergillus versicolor at concentrations of .4 mg/ml or less (Hitokoto et al., 1980).

Clove: Clove oil was found to have very strong radical scavenging activity (antioxidant). It was also found to display an antifungal effect against tested Candida strains (Chaieb et al., 2007).

Arborvitae: Arborvitae essential oil vapor and liquid displayed antifungal activity against two commonly encountered fungi (the medically important yeast Candida albicans, and the filamentous mold Aspergillus niger)(Hudson et al., 2011).

Lavender: Lavandula oil demonstrated antifungal activity against three pathogenic fungi (Behnam et al., 2006).

Lavender: Lavender oil demonstrated both fungistatic (stopped growth) and fungicidal (killed) activity against Candida albicans (D'Auria et al., 2005).

Dill: Dill essential oil was demonstrated to induce apoptosis (cell death) in *Candida albicans* in a metacaspase-dependent manner (Chen et al., 2014).

Cilantro: Cilantro essential oil was found to have fungicidal effect against *Candida albicans* and other yeasts. The oil appeared to act by binding to membrane ergosterol, rendering the cell membrane more permeable and ultimately causing cell death (Freires Ide et al., 2014).

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

Peppermint: Peppermint oil was found to have a higher fungistatic and fungicidal activity against various fungi (including Candida) than the commercial fungicide bifonazole (Mimica-Dukić et al., 2003).

Bergamot: Bergamot essential oil is active in vitro against several common species of ringworm (Sanguinetti et al., 2007).

Rosemary: Rosemary oil was found to inhibit aflatoxin production by aspergillus fungi (a highly toxic and carcinogenic substance produced by these fungi) (Rasooli et al., 2008).

Lemon: Lemon oil was found to be an effective antifungal agent against two bread-mold species (Caccioni et al., 1998).

Cassia: Cassia essential oil was found to have a strong inhibitory effect against *Aspergillus* mold in vitro and in grapes (Kocevski et al., 2013).

Antihemorrhaging

see ***Blood:Hemorrhaging***

Antihistamine

see ***Allergies***

Anti-Infectious

see ***Infection, Antibacterial, Antiviral, Antifungal***

Anti-Inflammatory

see ***Inflammation***

Antimicrobial

see ***Antibacterial, Antifungal, Antiviral***

Antioxidant

As part of its normal metabolic processes, the body uses and creates oxidative molecules, each capable of transferring electrons to itself from other molecules or substances. This type of reaction can create molecules known as free radicals (Davies, 1995). If left unchecked in the body, these free radicals can bind or react with different molecular structures, altering their abilities to function normally. Under normal, healthy conditions, the body's own systems are able to create or metabolize enough antioxidant materials to neutralize the ability of these oxidative molecules to create free radicals. But when the body comes under stress—including physical stress, psychological stress, poor nutrition, or disease—the amount of oxidative molecules being produced can increase, and the delicate balance between oxidative molecules and antioxidants can be thrown off, potentially overwhelming the body's own antioxidant mechanisms. This "oxidative stress" (Sies, 1997) creates a condition optimal for the formation of many free radicals, which in turn can potentially cause enough damage to the cell's normal structures to cause cell death, mutation, or loss of its ability to function normally within the body (Rhee, 2006; Vertuani et al., 2004).

Oils: Cellular Complex, clove, thyme, rosemary, peppermint, melaleuca, helichrysum, Cleansing Blend, Protective Blend, Respiratory Blend, Soothing Blend, cinnamon, frankincense, oregano, Roman chamomile

Other Products: Cellular Vitality Complex or Chewable Multivitamin, which contains polyphenols that act as powerful antioxidants, such as quercetin, epigallocatechin gallate, ellagic acid, resveratrol, baicalin, and others. Energy & Stamina Complex. Fruit & Veggie Drink Mix for a whole food source of essential nutrients and antioxidants.

Take capsules as directed. Use oils recommended as flavoring agents in cooking. Place 1–3 drops of oil in an empty capsule, and ingest it as a dietary supplement.

Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Dilute as recommended, and apply on the skin and reflex points on the feet. Dilute in a carrier oil, and massage into the skin. Apply as a hot compress.

Additional Research:

Clove: Clove oil was found to have very strong radical scavenging activity (antioxidant). It was also found to display an antifungal effect against tested Candida strains (Chaieb et al., 2007).

Clove: Various essential oils demonstrated an antioxidant effect toward skin lipid squalene oxidized by UV irradiation, with a blend of thyme and clove oil demonstrating the highest inhibitory effect (Wei et al., 2007).

Thyme: Extracts from eucalyptus and thyme were found to have high nitrous oxide scavenging abilities and inhibited nitrous oxide production in macrophage cells. This could possibly explain their role in aiding respiratory inflammatory diseases (Vigo et al., 2004).

Thyme: Older rats whose diets were supplemented with thyme oil were found to have a higher level of the antioxidant enzymes superoxide dismutase and glutathione peroxidase in the heart, liver, and kidneys than older rats without this supplementation (Youdim et al., 1999).

Thyme: Aging rats fed thyme oil or the constituent thymol were found to have higher levels of the antioxidant enzymes superoxide dismutase and glutathione peroxidase in the brain than aging rats not fed the oil or constituent (Youdim et al., 2000).

Rosemary: Extracts from rosemary were found to have high antioxidant properties. Rosmarinic acid and carnosic acid from rosemary were found to have the highest antioxidant activities of studied components of rosemary (Almela et al., 2006).

Rosemary: An ethanol extract of rosemary was found to have an antiproliferative effect on human leukemia and breast carcinoma cells, as well as an antioxidant effect (Cheung et al., 2007).

Rosemary: Extracts from rosemary were found to have high antioxidant levels. Additionally, a methanol extract with 30% carnosic acid, 16% carnosol, and 5%

rosmarinic acid were found to be effective against gram-positive and negative bacteria, and yeast (Moreno et al., 2006).

Rosemary: In patients with chronic bronchitis, rosemary, basil, fir, and eucalyptus oils were found to demonstrate an antioxidant effect. Lavender was found to promote normalization of lipid levels (Siurin, 1997).

Peppermint: Peppermint oil was found to be an effective antibacterial and antioxidant agent (Mimica-Dukić et al., 2003).

Peppermint: Peppermint oil fed to mice prior to exposure to gamma radiation was found to decrease levels of damage from oxidation when compared to mice not pretreated with peppermint (Samarth et al., 2006).

Peppermint: Peppermint extract fed orally to mice demonstrated the ability to protect the testis from gamma radiation damage (Samarth et al., 2009).

Melaleuca: Melaleuca alternifolia oil was found to reduce reactive oxygen species (ROS) production in neutrophils (a type of white blood cell), indicating an antioxidant effect and decreased Interleukin 2 (a chemical messenger that helps trigger an inflammatory response) secretion, while increasing the secretion of Interleukin 4 (a chemical messenger involved in turning off the inflammatory response) (Caldefie-Chézet et al., 2006).

Melaleuca: Melaleuca alternifolia oil was found to mediate the Reactive Oxygen Species (ROS) production of leukocytes (white blood cells), indicating a possible anti-inflammatory activity (Caldefie-Chézet et al., 2004).

Helichrysum: Arzanol (extracted from helichrysum), at non-cytotoxic concentrations, showed a strong inhibition of TBH-induced oxidative stress in VERO cells (Rosa et al., 2007).

Oregano: The antioxidant activity of oregano essential oil added to extra virgin olive oil at 0.05% was found to retard the lipid oxidation process in olive oil and prolong the olive oil's shelf life (Asensio et al., 2011).

Quercetin: Quercetin was found to increase plasma antioxidant status in healthy volunteers who took it as a supplement over four weeks (Boots et al., 2008).

Epigallocatechin gallate: Epigallocatechin-3-gallate (EGCG) supplementation was found to improve the antioxidant status of heat-stressed Japanese quail (Tuzcu et al., 2008).

Epigallocatechin gallate: Epigallocatechin-3-gallate (EGCG) was found to improve body weight and increase enzymatic and non-enzymatic antioxidants in bleomycin-induced pulmonary fibrosis in rats (Sriram et al., 2008).

Ellagic acid: Ellagic acid supplementation was found to significantly decrease mitochondrial and microsomal lipid peroxidation in endrin-induced hepatic lipid peroxidation (Bagchi et al., 1993).

Resveratrol: Resveratrol was found to act as an antioxidant and to reverse the anti-apoptotic effects of repetitive oxidative stress on lung fibroblasts in vitro (Chakraborty et al., 2008).

Baicalin: Baicalin was found to be an effective antioxidant, and to counteract oxidative stress induced to retinal cells and brain membranes of rats (Jung et al., 2008).

Other Polyphenols: Extracts from bilberry and blueberry were found to have higher ORAC values than strawberry, cranberry, elderberry, or raspberry and were found to significantly inhibit both H2O2 and TNF alpha induced VEGF expression by human keratinocytes (Roy et al., 2002).

Other Polyphenols: Catechins and procyanidins extracted from various berries were found to provide substantial antioxidant protection (Maatta-Riihinet et al., 2005).

Other Polyphenols: Oral supplementation of bilberry extract was found to reduce the degree of oxidative stress and kidney damage by potassium bromate oxidization in mice (Bao et al., 2008).

Antiparasitic

see *Parasites*

Antirheumatic

see *Arthritis:Rheumatoid Arthritis*

Antiseptic

see *Antibacterial, Antifungal, Antiviral*

Antiviral

The term "antiviral" refers to something that is able to inhibit or stop the development, function, or replication of an infection-causing virus.

Oils: helichrysum, melaleuca, clove, Protective Blend, melissa, Respiratory Blend, lime, cinnamon, lemon, oregano, peppermint, eucalyptus, thyme, orange, grapefruit, clary sage, juniper berry, myrrh, geranium, lavender, sandalwood, rosemary, cypress

Other Products: Protective Softgels, Protective Hand Wash to help protect against skin-borne microorganisms, Protective Cleaner to help eliminate microorganisms from household surfaces. Protective Throat Drops to soothe irritated and sore throats. Cellular Vitality Complex, Chewable Multivitamin, Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Omega-3 Fish Oil, Food Nutrient Complex to help support the immune system.

—Airborne Viruses:

Oils: Protective Blend

—Ebola Virus:

Oils: cinnamon, oregano

—Epstein-Barr Virus:

Oils: Protective Blend

—Herpes Simplex:

Oils: peppermint, clove, helichrysum, melaleuca, lavender, eucalyptus, cypress, lemon

—HIV: *see also AIDS*

Oils: helichrysum, Protective Blend, lemon, Grounding Blend

—Respiratory:

Oils: eucalyptus, Protective Blend

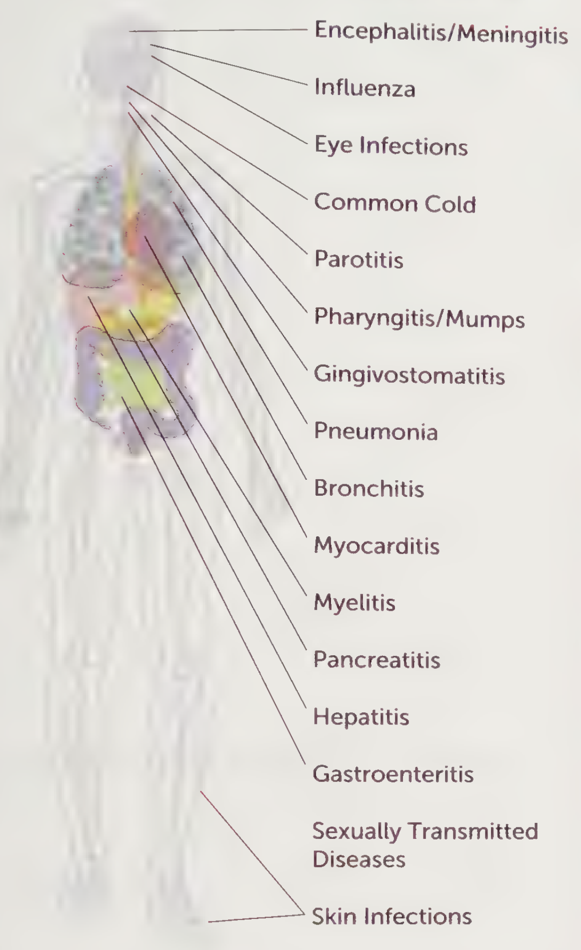
—Spine:

Blend 1: 5 drops oregano and 5 drops thyme. Apply to bottoms of feet and along the spine.

: Dilute as recommended, and apply on location or to reflex points on the bottoms of the feet. Use hand wash as directed on packaging.

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

Common Viral Infections



: Diffuse into the air. Inhale oil applied to a tissue or cotton wick.

: Take capsules as directed on package.

: Additional Research:

Helichrysum: Arzanol, extracted from helichrysum, inhibited HIV-1 replication in T cells and also inhibited the release of pro-inflammatory cytokines (chemical messengers) in monocytes (Appendino et al., 2007).

Helichrysum: Helichrysum was found to have significant antiviral activity against the herpes virus at non-cytotoxic concentrations (Nostro et al., 2003).

Melaleuca: Tea tree and eucalyptus oil demonstrated an ability to inhibit the Herpes simplex virus (Schnitzler et al., 2001).

Clove: Eugenol (found in clove oil) was found to be virucidal to Herpes simplex and to delay the development of herpes-induced keratitis (inflammation of the cornea) in mice (Benencia et al., 2000).

Melissa: Melissa oil demonstrated inhibition of Herpes simplex type 1 and 2 viruses (Schnitzler et al., 2008).

Peppermint: Peppermint oil demonstrated a direct virucidal activity against herpes type 1 and 2 viruses (Schuhmacher et al., 2003).

Eucalyptus: Tea tree and eucalyptus oil demonstrated an ability to inhibit the Herpes simplex virus (Schnitzler et al., 2001).

Menthol, thymol, methyl salicylate, and eucalyptol: A trial including 80 subjects with *Herpes labialis* showed that rinsing with an essential oil containing mouthrinse resulted in effectively zero recoverable virions at 30 seconds post rinse and a significant reduction in saliva viral presence 30 minutes post rinse, suggesting that an essential oil mouthrinse can reduce viral contamination of saliva (Meiller et al., 2005).

Anxiety

Anxiety is the body's way of preparing itself to deal with a threat or to deal with future stressful events. While this response is normal and happens as part of the body's natural response to stress, this response can also happen at inappropriate times or too frequently, as in the case of anxiety disorders. Anxiety can include both physical and mental symptoms such as fear, nervousness, nausea, sweating, increased blood pressure and heart rate, feelings of apprehension or dread, difficulty concentrating, irritability, restlessness, panic attacks, and many others.

Oils: lavender, orange, lemon, Focus Blend, Calming Blend, Massage Blend, Joyful Blend, Grounding Blend (on back of neck) and Respiratory Blend (on chest), ylang ylang, melissa, frankincense, sandalwood, cedarwood, juniper berry Invigorating Blend, bergamot, geranium, lime, clary sage, rose, basil, cypress, marjoram

Other Products: Therapeutic Bath Salts. Add 1–2 drops of essential oil to 1/4 cup bath salts, and dissolve in warm bathwater for an anxiety-relieving bath.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Place 1–2 drops in 1 Tbs. fractionated coconut oil and massage into the skin. Dilute as recommended, and apply to back of neck, temples, or reflex points on feet. Add 1–2 drops to 1/4 cup bath salts, and dissolve in warm bathwater.

: Additional Research:

Lavender: Exposure to lavender odor was found to decrease anxiety in gerbils in the elevated plus maze, with a further decrease in anxiety in females after prolonged (2 week) exposure (Bradley et al., 2007).

Lavender: Subjects receiving a lozenge containing lavender oil, hops extract, lemon balm, and oat were found to have increases in alpha 1, alpha 2, and beta 1 electrical output (Dimpfel et al., 2004).

Lavender: In patients admitted to an intensive care unit, those receiving lavender aromatherapy reported a greater improvement in mood and perceived levels of anxiety compared to those receiving massage or a period of rest (Dunn et al., 1995).

Lavender: Female patients being treated for chronic hemodialysis demonstrated less anxiety when exposed to lavender aroma compared to control (Itai et al., 2000).

Lavender: Lavender oil was found to demonstrate anticonflict effects in mice similar to the anxiolytic (antianxiety) drug diazepam (Umezu, 2000).

Lavender: Patients waiting for dental treatment were found to be less anxious and to have a better mood when exposed to the odor of lavender or orange oil as compared to control (Lehrner et al., 2005).

Lavender and Roman Chamomile: A study with 56 percutaneous coronary intervention patients in an intensive care unit found that an aromatherapy blend of lavender, Roman chamomile, and neroli decreased anxiety and improved sleep quality when compared to conventional nursing intervention (Cho et al., 2013).

Orange: Patients waiting for dental treatment were found to be less anxious and to have a better mood when exposed to the odor of lavender or orange oil as compared to control (Lehrner et al., 2005).

Orange: Bitter orange peel oil taken orally by mice was found to reduce anxiety, increase sleeping time, and increase the time before a chemically-induced seizure started (Carvalho-Freitas et al., 2002).

Orange: Female patients waiting for dental treatment were found to be less anxious, more positive, and more calm when exposed to orange oil odor than patients who were not exposed to the orange oil odor (Lehrner et al., 2000).

Orange: Dental patients (aged 6-9 years) displayed reduce salivary cortisol, pulse rate, and anxiety while undergoing dental treatments when inhaling wild orange essential oil, compared to no aroma (Jafarzadeh et al., 2013).

Orange: Healthy male subjects displayed reduced anxiety after five minutes of inhalation of orange essential oil compared to the inhalation of melaleuca essential oil or distilled water when submitted to an anxiety inducing situation (Goes et al., 2012).

Orange: Rats subjected to the elevated plus-maze following exposure to the aroma of orange essential oil for five minutes displayed reduced anxiety as compared to exposure to melaleuca essential oil (Faturi et al., 2010).

Lemon: Lemon oil was found to have an antistress effect on mice involved in several behavioral tasks (Komiya et al., 2006).

Melissa: Results of a clinical trial indicate that a combination of melissa and valerian oils may have anxiety-reducing properties at some doses (Kennedy et al., 2006).

Bergamot: Inhalation of bergamot essential oil produced similar anxiolytic results as acute injection of an antianxiety drug, diazepam, administered to mice subjected to two behavioral measurements of anxiety (the elevated plus maze test and the hole-board test) (Saiyudthong et al., 2011). Bergamot essential oil also reduced the corticosterone response to stress exposure of the mice (Saiyudthong et al., 2011).

Clary Sage: Dietary administration of clary sage oil (from conception) was found to have an anti-anxiety and submissive effect on mice, when compared to administration of sunflower oil (from conception and weaning) and clary sage (from weaning) (Gross et al., 2013).

Cassia: A single treatment of cassia extract decreased anxiety in mice by causing a change of serotonin receptors in the dorsal raphe nucleus (Jung et al., 2012).

Cypress: In rats, *Chamaecyparis obtusa* essential oil (a Japanese plant belonging to the same botanical family as cypress essential oil) decreased anxiety-related behaviors caused by the early life stress of maternal separation. This decrease in anxiety was comparable to the effects of fluoxetine, a drug commonly used to treat depression and anxiety disorders. The same study found that cytokine gene expression in the hippocampus was altered by the inhalation of *Chamaecyparis obtusa* (Park et al., 2014).

Aromatherapy Massage: Results from a randomized, controlled trial suggest that aromatherapy massage can be an effective therapeutic option for the short-term management of mild to moderate anxiety and depression in patients with cancer (Wilkinson et al., 2007).

Carvacrol in thyme and oregano: Carvacrol is a monoterpenic phenol found in thyme and oregano. Oral administration of carvacrol produced antianxiety-like effects in mice (Melo et al., 2010).

Apathy

see Depression

Aphrodisiac

An Aphrodisiac is a substance used to stimulate feelings of love or sexual desire. Many books of aromatherapy tout the aphrodisiac qualities of a number of oils. Perhaps an aphrodisiac to one individual may not be to another. The most important factor is to find an oil that brings balance to the mind and body. A balanced individual is more likely to extend love.

Oils: sandalwood, ylang ylang, rose, jasmine, Blend for Women, cinnamon, ginger, clary sage

: Diffuse into the air. Dissolve 2–3 drops in 2 tsp. pure grain or perfumers alcohol, combine with distilled water in a 1 or 2 oz. spray bottle, and spray into the air or on clothes or bed linens.

: Dilute as recommended and wear on temples, neck, or wrists as a perfume or cologne. Combine 3–5 drops of your desired essential oil with 1 Tbs. fractionated coconut oil to use as a massage oil. Combine 1–2 drops with 1/4 cup Therapeutic Bath Salts, and dissolve in warm bathwater for a romantic bath.

Appetite

Appetite is the body's desire to eat, expressed as hunger. Appetite is important in regulating food intake to provide the body with the necessary nutrients to sustain life and maintain energy.

—Loss of Appetite:

Oils: lavender, ginger, lemon, orange

—Suppressant:

Oils: Metabolic Blend, grapefruit

Other Products: Trim Shakes

: Add 8 drops of Metabolic Blend to 16 oz. of water, and drink throughout the day between meals. Drink Trim or V Shake 1–2 times a day as a meal alternative.

: Diffuse into the air. Inhale oil applied to a tissue or cotton wick.

: **Additional Research:**

Lavender: Lavender oil was found to inhibit sympathetic nerve activity while exciting parasympathetic nerve activity and increasing appetite and weight gain in rats. Linalool, a component of lavender, was shown to have similar effects (Shen et al., 2005).

Grapefruit: The scent of grapefruit oil and its component, limonene, was found to affect the autonomic nerves by exciting sympathetic nerve activity and inhibiting parasympathetic nerve activity. It was also found to reduce appetite and body weight in rats exposed to the oil for 15 minutes three times per week (Shen et al., 2005).

Arteries

See also *Blood, Cardiovascular System*

Arteries are the vessels of the circulatory system that function to carry blood away from the heart.

—Arterial Vasodilator:

A vasodilator is a substance that causes a blood vessel to dilate (increase in diameter) through the relaxation of the endothelial cells lining the vessel walls. This gives the blood more room to flow and lowers blood pressure.

Oils: eucalyptus, rosemary, marjoram

—Atherosclerosis:

Atherosclerosis is a hardening of the arteries due to a build-up of plaques along the arterial wall.

Oils: lemon, lavender, rosemary, ginger, cedarwood, thyme, juniper berry, wintergreen

⊖: Dilute as recommended, and apply to carotid arteries in neck, over heart, and reflex points on the feet.

Ø: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⌶: **Additional Research:**

Eucalyptus: Treatment of rats with 1,8-cineole (or eucalyptol found in eucalyptus and rosemary) demonstrated an ability to lower mean aortic pressure (blood pressure), without decreasing heart rate, through vascular wall relaxation (Lahlou et al., 2002).

Rosemary: Treatment of rats with 1,8-cineole (or eucalyptol found in eucalyptus and rosemary) demonstrated an ability to lower mean aortic pressure (blood pressure), without decreasing heart rate, through vascular wall relaxation (Lahlou et al., 2002).

Lemon: Lemon oil and one of its components, gamma-terpinene, were found to inhibit oxidation of low-density lipoprotein (LDL). Oxidation of LDL has been found to increase the risk of atherosclerosis and cardiac disease (Grassmann et al., 2001).

Lavender: Inhalation of lavender and monarda oils was found to reduce cholesterol content and atherosclerotic plaques in the aorta (Nikolaevskiĭ et al., 1990).

Arthritis

see also *Inflammation, Joints*

Arthritis is the painful swelling, inflammation, and stiffness of the joints.

Oils: frankincense, rosemary, marjoram, Soothing Blend, eucalyptus, white fir, peppermint, lavender, cypress, juniper berry, ginger, Roman chamomile, helichrysum, cedarwood, wintergreen, basil, clove

Blend 1: Combine equal parts wintergreen and Soothing Blend. Apply on location.

Other Products: Cellular Vitality Complex

—Arthritic Pain:

Oils: Soothing Blend, wintergreen, ginger

—Osteoarthritis:

Osteoarthritis is a degenerative arthritis where the cartilage that provides lubrication between the bones in a joint begins to break down, becoming rough and uneven. This causes the bones in the joint to wear and create rough deposits that can become extremely painful.

Oils: rosemary, marjoram, Soothing Blend, geranium, wintergreen, thyme, basil, lavender, eucalyptus

Other Products: Cellular Vitality Complex

—Rheumatoid Arthritis:

Rheumatoid arthritis is arthritis caused by inflammation within the joint, causing pain and possibly causing the joint to degenerate.

Oils: marjoram, lavender, cypress, Soothing Blend, geranium, bergamot, clove, ginger, lemon, rosemary, wintergreen, cinnamon, eucalyptus, oregano (chronic), peppermint, Roman chamomile, thyme

Other Products: Cellular Vitality Complex

⊖: Dilute as recommended, and apply on location. Apply as a warm compress over affected area. Dilute 1–2 drops in 1 Tbs. fractionated coconut oil, and use as a massage oil. Add 1–2 drops to 1/4 cup Therapeutic Bath Salts, and dissolve in warm bathwater for a soaking bath.

Ø: Diffuse into the air.

⌶: **Additional Research:**

Frankincense: An acetone extract of frankincense was found to decrease arthritic scores, reduce paw edema (swelling) and suppress pro-inflammatory cytokines (cellular messengers) (Fan et al., 2005).

Rosemary: In patients suffering from arthritis, it was found that a blend of lavender, marjoram, eucalyptus, rosemary, and peppermint blended with carrier oils reduced perceived pain and depression compared to control (Kim et al., 2005).

Marjoram: In patients suffering from arthritis, it was found that a blend of lavender, marjoram, eucalyptus, rosemary, and peppermint blended with carrier oils reduced perceived pain and depression compared to control (Kim et al., 2005).

Eucalyptus: In patients suffering from arthritis, it was found that a blend of lavender, marjoram, eucalyptus, rosemary, and peppermint blended with carrier oils reduced perceived pain and depression compared to control (Kim et al., 2005).

Peppermint: In patients suffering from arthritis, it was found that a blend of lavender, marjoram, eucalyptus, rosemary, and peppermint blended with carrier oils reduced perceived pain and depression compared to control (Kim et al., 2005).

Lavender: In patients suffering from arthritis, it was found that a blend of lavender, marjoram, eucalyptus, rosemary, and peppermint blended with carrier oils reduced perceived pain and depression compared to control (Kim et al., 2005).

Cellular Vitality Complex: Epigallocatechin-3-gallate was found to ameliorate experimental rheumatoid arthritis in the short term (Morinobu et al., 2008).

Clove: Eugenol and ginger oil taken orally were found to reduce paw and joint swelling in rats with induced severe arthritis (Sharma et al., 1994).

Ginger: Eugenol and ginger oil taken orally were found to reduce paw and joint swelling in rats with induced severe arthritis (Sharma et al., 1994).

Eugenol (found in cassia, cinnamon, and clove): Eugenol was found to ameliorate experimental arthritis in mice by inhibiting mononuclear cell infiltration into the knee joints and lowering cytokine levels (Grespan et al., 2012).

Cinnamon: The polyphenol fraction from cinnamon bark was found to improve inflammation and pain in animal models of inflammation and rheumatoid arthritis (Rathi et al., 2013).

Coriander: Coriander extract produced a dose dependent inhibition of joint swelling in two mice models of induced arthritis (Nair et al., 2012).

Asthma

Asthma is a disease that causes the lung's airways to narrow, making it difficult to breathe. Episodes (or attacks) of asthma can be triggered by any number of things, including smoke, pollution, dust mites, and other allergens. Asthma causes reoccurring periods of tightness in the chest, coughing, shortness of breath, and wheezing.

Oils: eucalyptus, frankincense, peppermint, thyme, Respiratory Blend, oregano, lemon, myrrh, lavender, geranium, cypress, clary sage, ylang ylang, rose, helichrysum, marjoram, rosemary

—Attack

Oils: Respiratory Blend, eucalyptus, frankincense (calming), lavender, marjoram

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Dilute as recommended and apply to the chest, throat, or back. Add 2–3 drops to 1 Tbs. fractionated coconut oil, and massage onto chest, shoulders, and back.

: **Additional Research:**

Eucalyptus: Extracts from eucalyptus and thyme were found to have high nitrous oxide (NO) scavenging abilities and inhibited NO production in macrophage cells. This could possibly explain their role in aiding respiratory inflammatory diseases (Vigo et al., 2004).

Eucalyptus: Therapy with 1,8 cineole (eucalyptol, found in eucalyptus) in both healthy and bronchitis-afflicted humans was shown to reduce production of LTB4 and PGE2, both metabolites of arachidonic acid (a known chemical messenger involved in inflammation), in white blood cells (Juergens et al., 1998).

Peppermint: L-menthol (found in peppermint) was found to inhibit production of inflammation mediators in human monocytes (a type of white blood cell involved in the immune response) (Juergens et al., 1998).

Lavender: Long-term inhalation of lavender oil was found to suppress allergic airway inflammation and mucous cell hyperplasia in a mouse model of acute asthma (Ueno-Iio et al., 2014).

Laurel Leaf (Bay) in Respiratory Blend: Magnolialide, extracted from laurel leaf, was found to inhibit key factors in the development and amplification of type I hypersensitivity responses (implicated in the cause of allergic asthma) (Lee, T. et al., 2013).

Athlete's Foot

see Antifungal:Athlete's Foot

Attention Deficit Disorder

see ADD/ADHD

Autism

Autism is a developmental disorder that impairs the normal development of communication, sociality, and human interaction.

—Reduce Anxiety/Fear: *see also* Anxiety

Oils: geranium, clary sage, bergamot

—Stimulate the Senses: *see also* Stimulating

Oils: peppermint, basil, lemon, rosemary

: Add 1–2 drops to 1 Tbs. fractionated coconut oil, and massage into skin.

Comments: Only apply these oils when the autistic child is willing and open to receive them. If the experience is forced or negative, the autistic child will associate these oils with a negative experience when used again.

Auto-Immune Diseases

see Grave's Disease, Hashimoto's Disease, Lupus

Awake

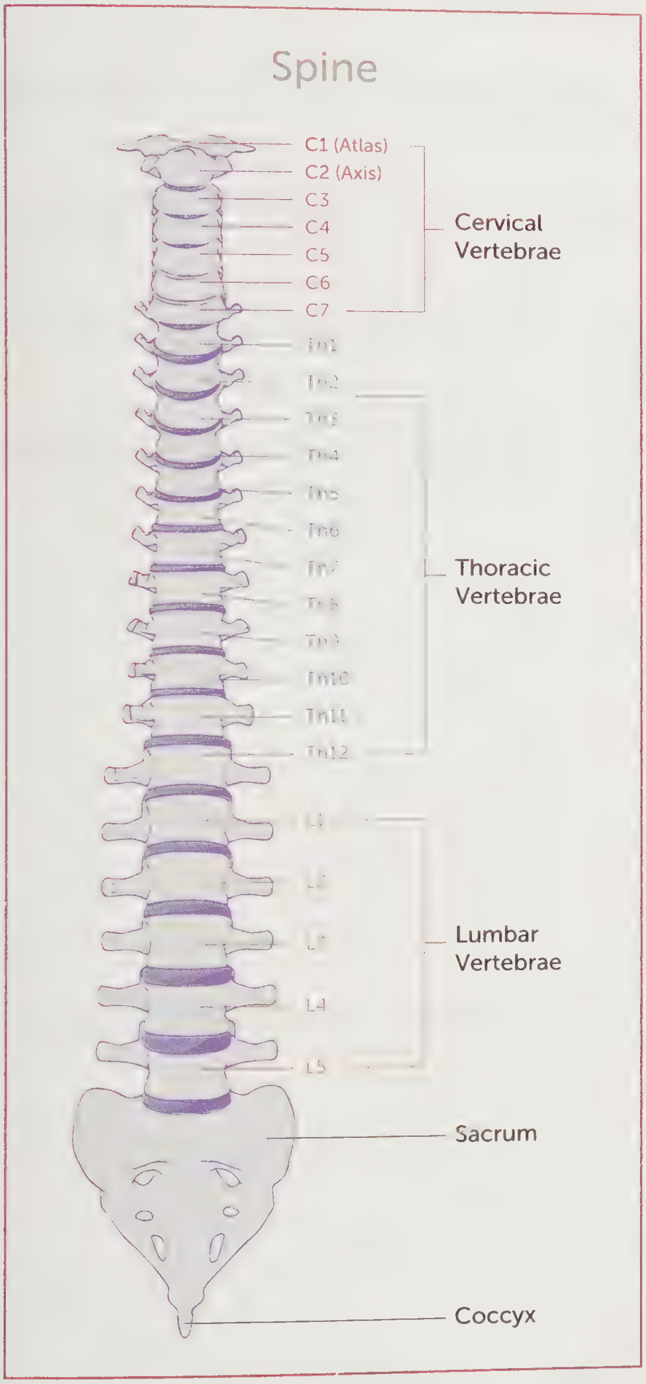
see Alertness, Jet Lag

Babies

see Children and Infants

Back

Oils: Soothing Blend, Grounding Blend, cypress, eucalyptus, geranium, lavender, Roman chamomile, oregano, peppermint, rosemary, juniper berry, thyme


Spine

—Calcified Spine

Calcification occurs when calcium builds up in tissue and causes the tissue to harden. As people age, calcification can cause the ligaments of the spine to thicken and harden, making the spinal canal narrow and create pressure on the spinal nerve.

Oils: Soothing Blend, geranium, rosemary

—Deteriorating Spine:

Deteriorating disc disease occurs as people age and their spinal discs begin to deteriorate. As deterioration progresses, movement becomes restricted and pain in the neck and back increases. Although most commonly associated with aging, disc deterioration can be caused by back injuries as well.

Oils: Soothing Blend

—Herniated Discs:

In between the bones of the spine are cushioning discs that keep the spine flexible and act as shock absorbers. A herniated disc is caused when one of the discs of the spine is damaged and either bulges or breaks open. When the herniated disc presses on a nerve, it causes pain in the buttock, thigh, and calf. Herniated discs can be caused by spinal injuries or by the wear and tear that come with age as the discs begin to dry out

Oils: Soothing Blend, Grounding Blend (3 drops on location), peppermint, cypress (strengthens blood capillary walls, improves circulation, anti-inflammatory)

—Lumbago/Lower Back Pain:

Oils: sandalwood, Soothing Blend

—Muscular Fatigue:

Oils: clary sage, marjoram, lavender, rosemary

—Pain:

Oils: Grounding Blend, Soothing Blend

Blend 1: Combine 5–10 drops each of lavender, eucalyptus, and ginger, and apply 2–3 drops on location or as a warm compress.

Blend 2: Combine 5–10 drops each of peppermint, rosemary, and basil, and apply 2–3 drops on location or as a warm compress.

—Stiffness:

Oils: marjoram, Grounding Blend

—Viruses Along Spine:

Oils: oregano, eucalyptus

: Dilute as recommended, and apply along the spine, on affected muscles, or on reflex points on the feet. Dilute 1–3 drops in 1 Tbs. fractionated coconut oil, and massage into muscles on the back or along the spine. Apply as a warm compress over affected area.

Bacteria

see *Antibacterial*

Balance

Oils: Grounding Blend, frankincense, vetiver, ylang ylang, cedarwood

—Electrical Energies:

Oils: Grounding Blend, frankincense

Application Methods:

: Dilute as recommended, and apply on location. Apply 3–6 drops of Grounding Blend to the bottom of each foot, and, if desired, apply some to the neck and shoulders. Hold the palm of each hand to the bottom of each corresponding foot (left to left and right to right) for 5–15 minutes to help balance electrical energies.

: Diffuse into the air.

Baldness

see *Hair:Loss*

Bath

Using essential oils in the bath can be a wonderful way to receive and possibly enhance the benefits of the oils.

Oils: lavender, geranium, Roman chamomile, ylang ylang

Some common ways to use essential oils in the bath include the following:

Direct: Add 1–3 drops of oil directly to bathwater while the bath is filling. Oils will be drawn to your skin quickly from the top of the water, so use non-irritating oils such as lavender, ylang ylang, etc., or dilute the oil with fractionated coconut oil to safe topical application dilutions.

Bath Gel: To disperse the oil throughout the bathwater, add 5–10 drops of your favorite essential oil to one-half ounce of unscented bath and shower gel.

Bath Salts: For a relaxing mineral bath, add 1–5 drops of your desired essential oil to 1/4–1/2 cup of Therapeutic Bath Salts or Epsom salts; mix well. Dissolve salts in warm bathwater while the tub is filling.

Bed Wetting

see *Bladder:Bed Wetting*

Bell's Palsy

see *Nervous System:Bell's Palsy*

Birthing

see *Pregnancy/Motherhood*

Bites/Stings

see also *Insects/Bugs:Repellent*

Oils: thyme, basil, lemon, cinnamon, lavender

—Allergic:

Oils: Cleansing Blend

—Bees and Hornets

Oils: Roman chamomile, basil, Cleansing Blend, lavender, lemongrass, lemon, peppermint, thyme

Recipe 1: Remove the stinger, and apply a cold compress of Roman chamomile to the area for several hours or for as long as possible.

—Gnats and Midges:

Oils: lavender

Recipe 2: Mix 3 drops thyme in 1 tsp. cider vinegar or lemon juice. Apply to bites to stop irritation.

—Mosquitoes:

Oils: lavender, helichrysum

—Snakes:

Oils: basil

—Spiders:

Oils: basil, Cleansing Blend (with melaleuca), lavender, lemongrass, lemon, peppermint, thyme

Recipe 3: Mix 3 drops lavender and 2 drops Roman chamomile with 1 tsp. alcohol. Apply to area three times per day.

—Ticks:

Oils: After getting the tick out, apply 1 drop lavender every 5 minutes for 30 minutes:

Removing Ticks:

Do not apply mineral oil, Vaseline, or anything else to remove the tick, as this may cause it to inject the spirochetes into the wound.

Be sure to remove the entire tick. Get as close to the mouth as possible, and firmly tug on the tick until it releases its grip. Don't twist. If available, use a magnifying glass to make sure that you have removed the entire tick.

Save the tick in a jar, and label it with the date, where you were bitten on your body, and the location or address where you were bitten for proper identification by your doctor, especially if you develop any symptoms.

Do not handle the tick.

Wash hands immediately.

Check the site of the bite occasionally to see if any rash develops. If it does, seek medical advice promptly.

—Wasps:

Recipe 4: Combine 1 drop basil, 2 drops Roman chamomile, 2 drops lavender, and 1 tsp. apple cider vinegar. Apply to area three times a day.

⊖: Dilute as recommended, and apply on location.

Bladder

see also *Urinary Tract*

The Urinary Bladder is a hollow organ that collects urine before it is disposed by urination. The bladder sits on the pelvic floor.

—Bed Wetting and Incontinence:

Oils: ⊖cypress (rub on abdomen at bedtime), ⊖ylang ylang⊖.

—Cystitis/Infection:

Oils: ⊖lemongrass, 💧⊖Protective Blend, ⊖sandalwood, ⊖juniper berry, ⊖thyme, ⊖cedarwood, ⊖basil, ⊖cinnamon, ⊖clove, ⊖eucalyptus, ⊖frankincense, ⊖lavender, ⊖bergamot, ⊖fennel, ⊖marjoram, ⊖oregano

Other Products: 💧Protective Softgels

⊖: Dilute as recommended, and apply on abdomen and on reflex points on the feet. Add 1–2 drops to warm bathwater; bathe for 10–15 minutes.

💧: Add 1 drop to 8 oz. juice or water; drink three times a day.

: **Additional Research:**

Ylang ylang: Ylang ylang oil induced relaxation in rat (in vitro) and rabbit (in vivo) bladder smooth muscle, suggesting that ylang ylang may be effective at alleviating an overactive bladder (Kim et al., 2003).

Bleeding

see *Blood:Bleeding*

Blister (on lips from sun)

Oils: ⊖lavender

⊖: Apply oil to blister often to help take the fever out and return the lip to normal.

Bloating

see *Digestive System:Bloating*

Blood

Blood is the fluid inside the body that transports oxygen and nutrients to the cells and carries waste away from the cells. It also transports cells involved in the immune and inflammatory response, hormones and other chemical messengers that regulate the body's functions, and platelets that help facilitate the blood clotting necessary to repair damaged blood vessels. Blood is primarily composed of plasma (water with dissolved nutrients, minerals, and carbon dioxide) that carries red blood cells (the most numerous type of cells in blood, responsible for transporting oxygen), white blood cells (cells involved in the immune system and immune response), and platelet cells. Blood is circulated in the body by the pumping action of the heart propelling blood through various blood vessels. Proper and healthy circulation and function of blood throughout the body is critical for health and even for the sustaining of life.

—Blood Pressure

Oils: 💧lemon (will regulate pressure—either raise or lower as necessary), ⊖⊘lime

–High (hypertension)

Oils: ylang ylang, marjoram, eucalyptus, lavender, clove, clary sage, lemon, wintergreen **Note:** Avoid rosemary, thyme, and possibly peppermint.

Bath 1: Place 3 drops ylang ylang and 3 drops marjoram in bathwater, and bathe in the evening twice a week.

Blend 1: Combine 10 drops ylang ylang, 5 drops marjoram, and 5 drops cypress in 1 oz. fractionated coconut oil. Rub over heart and reflex points on left foot and hand.

Blend 2: Combine 5 drops geranium, 8 drops lemongrass, and 3 drops lavender in 1 oz. fractionated coconut oil. Rub over heart and reflex points on left foot and hand.

–Low

Oils: rosemary

: Diffuse into the air. Inhale the aroma directly.

: Place 1–2 drops of oil under the tongue or place 1–3 drops of oil in an empty capsule; ingest up to 3 times per day.

: Dilute as recommended, and apply on location, on reflex points on feet and hands, and over heart.

–Bleeding (stops):

Oils: helichrysum, geranium, rose

: Dilute as recommended, and apply on location.

–Broken Blood Vessels

Oils: helichrysum, grapefruit

: Dilute as recommended, and apply on location, on reflex points on feet and hands, and over heart.

–Cholesterol:

Cholesterol is a soft, waxy substance found in the bloodstream and in all of the body's cells. The body requires some cholesterol to function properly, but high levels of cholesterol narrow and block the arteries and increase the risk of heart disease.

Oils: helichrysum

: Dilute as recommended, and apply on reflex points on feet and hands, and over heart.

–Circulation: *see Cardiovascular System*

–Cleansing

Oils: helichrysum, geranium, Roman chamomile

: Dilute as recommended, and apply on reflex points on feet and hands, and over heart.

–Clots:

Blood Clots occur as a natural bodily defense to repair damaged blood vessels and to keep the body from losing excessive amounts of blood. However, clotting can become dangerous if an internal blood clot breaks lose in the circulatory system and blocks the flow of blood to vital organs.

Oils: clove, fennel, thyme, grapefruit

: Place 1–2 drops of oil under the tongue or place 1–3 drops of oil in an empty capsule; ingest up to 3 times per day.

: Dilute as recommended, and apply on location, on reflex points on feet and hands, and over heart.

: Diffuse into the air. Inhale the aroma directly.

–Hemorrhaging:

Hemorrhaging is excessive or uncontrollable blood loss.

Oils: helichrysum, ylang ylang, rose

: Dilute as recommended, and apply on location.

–Low Blood Sugar:

The term "blood sugar" refers to the amount of glucose in the bloodstream. When the blood glucose drops below its normal level, this is called "low blood sugar" or "hypoglycemia." Since glucose is such an important source of energy for the body, low blood sugar can result in light-headedness, hunger, shakiness, weakness, confusion, nervousness, difficulty speaking, and anxiety.

Oils: Protective Blend, cinnamon, clove, thyme

Other Products: Protective Softgels

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

⊖: Dilute as recommended, and apply on location, on reflex points on feet and hands, and over heart.

—Stimulates Blood Cell Production

Oils: ○⊖peppermint, ○⊖lemon

○: Place 1–2 drops of oil under the tongue or place 1–3 drops of oil in an empty capsule; ingest up to 3 times per day. Take supplement as directed.

⊖: Dilute as recommended, and apply on location, on reflex points on feet and hands, and over heart.

—Vessels: *see Arteries, Capillaries, Veins*

: Additional Research:

Ylang ylang: Subjects who had ylang ylang oil applied to their skin had decreased blood pressure, increased skin temperature, and reported feeling more calm and relaxed than did subjects in a control group (Hongratanaworakit et al., 2006).

Ylang ylang: Inhaled ylang ylang oil was found to decrease blood pressure and pulse rate and to enhance attentiveness and alertness in volunteers compared to an odorless control (Hongratanaworakit et al., 2004).

Ylang ylang, lavender, marjoram: Eighty-three hypertensive or prehypertensive subjects were divided into the following three groups: a study group (exposed to an essential oil blend containing lavender, ylang ylang, marjoram, and neroli), a placebo group (exposed to artificial fragrance), and a control group (no interventions). The study group was found to have an immediate and long-term decrease in home blood pressure (Kim et al., 2012).

Marjoram: Treatment of rats with 1,8-cineole (or eucalyptol, found in eucalyptus, rosemary, and marjoram) demonstrated an ability to lower mean aortic pressure (blood pressure), without decreasing heart rate, through vascular wall relaxation (Lahlou et al., 2002).

Eucalyptus: Treatment of rats with 1,8-cineole (or eucalyptol, found in eucalyptus, rosemary, and marjoram) demonstrated an ability to lower mean aortic pressure (blood pressure), without decreasing heart rate, through vascular wall relaxation (Lahlou et al., 2002).

Rosemary: Oral treatment with rosemary essential oil on primary hypotensive subjects was found to increase blood pressure values when compared to the subjects' placebo treatments before and after rosemary treatment (Fernández et al., 2014).

Clove: Clove oil demonstrated an ability to prevent the aggregation of platelets that can lead to blood clots and thrombosis both in vivo and in vitro (Saeed et al., 1994).

Fennel: Both fennel oil and its constituent, anethole, were found to significantly reduce thrombosis (blood clots) in mice. They were also found to be free from the prohemorrhagic (increased bleeding) side effect that aspirin (acetylsalicylic acid) has (Tognolini et al., 2007).

Peppermint: In mice exposed to whole-body gamma irradiation, only 17% of mice who had been fed peppermint oil died, while 100% of mice who did not receive peppermint oil died. It was also found that the mice pre-fed peppermint oil were able to return blood cell levels to normal after 30 days, while the control mice were not able to (and consequently died), suggesting a protective or stimulating effect of the oil on blood stem cells (Samarth et al., 2004).

Body Systems

see Cardiovascular System, Digestive System, Endocrine System, Lymphatic System, Muscles/Connective Tissue, Bones, Nervous System, Respiratory System, Skin

Boils

see also Antibacterial

A boil is a skin infection that forms in a hair follicle or oil gland. The boil starts as a red, tender lump that after a few days forms a white or yellow point in the center as it fills with pus. Boils commonly occur on the face, neck, armpits, buttock, and shoulders and can be very painful.

Oils: ⊖melaleuca, ⊖lavender, ⊖Cleansing Blend, ⊖lemongrass, ⊖lemon, ⊖frankincense, ⊖clary sage

⊖: Dilute as recommended, and apply on location.

: Additional Research:

Melaleuca: In a human trial, most patients receiving treatment with Melaleuca alternifolia oil placed topically on boils experienced healing or reduction of symptoms; while of those receiving no treatment (control), half required surgical intervention, and all still demonstrated signs of the infection (Feinblatt, 1960).

Bones

Oils: ⊖wintergreen, ⊖white fir, ⊖cypress, ⊖juniper berry, ⊘⊖cedarwood, ⊖lavender, ⊖lemongrass, ⊖marjoram, ⊖peppermint, ⊖sandalwood

Other Products: ○Food Nutrient Complex contains nutrients essential for bone development, such as calcium, magnesium, zinc, and vitamin D.

—Bone Spurs:

A bone spur (osteophyte) is a bony projection formed on a normal bone. Bone spurs form as the body tries to repair itself by building extra bone in response to continued pressure, stress, or rubbing. Bone spurs can cause pain if they rub against soft tissues or other bones.

Oils: ⊖wintergreen, ⊖cypress, ⊖marjoram

—Broken:

Oils: ⊖Soothing Blend (for pain), ⊖○frankincense

Recipe 1: Apply wintergreen and cypress oils at night before bed. Apply helichrysum, oregano, and Grounding Blend in the morning.

Blend 1: Combine equal parts lemongrass, clove, eucalyptus, and melaleuca. Apply on location.

Other Products: ○Food Nutrient Complex contains essential bone nutrients calcium, magnesium, zinc, and vitamin D.

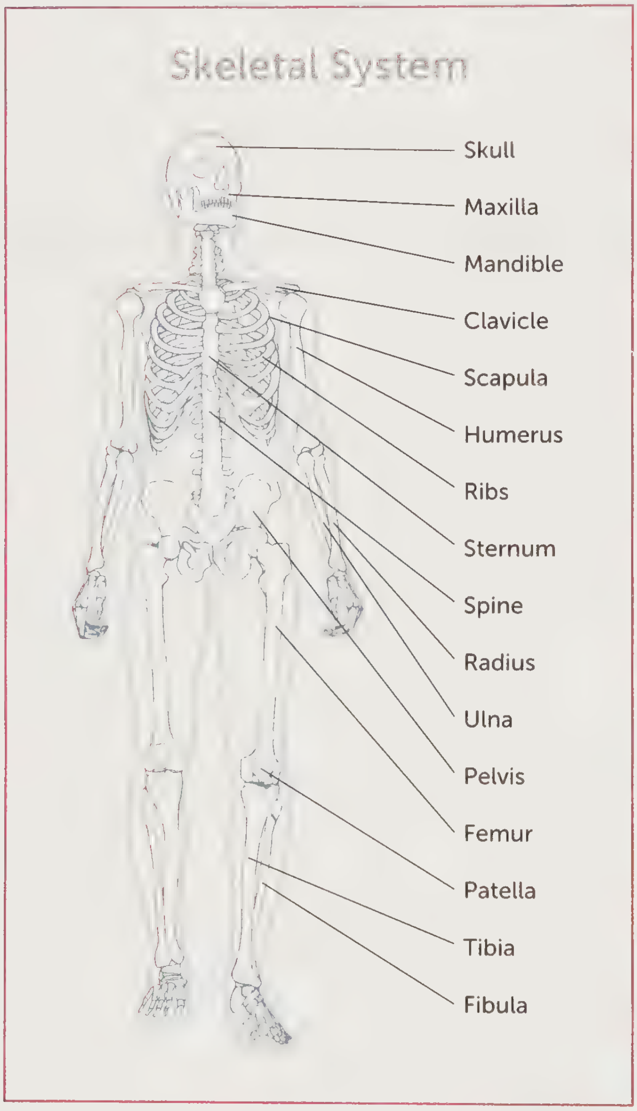
—Bruised

Oils: ⊖Soothing Blend, ⊖helichrysum

—Cartilage:

Cartilage is a type of connective tissue in the body that provides structure and support for other tissues without being hard and rigid like bone. Unlike other connective tissues, cartilage does not have blood vessels. Cartilage is found in many areas of the body, including the joints, ears, nose, bronchial tubes, and intervertebral discs.

Oils: sandalwood (helps regenerate), white fir (inflammation)



—Development:

Other Products: Food Nutrient Complex contains essential bone nutrients necessary for development, such as calcium, magnesium, zinc, and vitamin D.

—Osteomyelitis: *see also* *Antibacterial, Antifungal*

Osteomyelitis is a bone infection that is usually caused by bacteria. The infection often starts in another area of the body and then spreads to the bone. Symptoms include fever, pain, swelling, nausea, drainage of pus, and uneasiness. Diabetes, hemodialysis, recent trauma, and IV drug abuse are risk factors for osteomyelitis.

Recipe 1: Apply equal parts lemongrass, clove, eucalyptus, and melaleuca, either blended together or applied individually on location.

—Osteoporosis:

Osteoporosis is a disease characterized by a loss of bone density, making the bones extremely fragile and susceptible to fractures and breaking. Osteoporosis develops when bone resorption exceeds bone formation. Osteoporosis is significantly more common in women than in men, especially after menopause; but the disease does occur in both genders.

Oils: clove, geranium, peppermint, wintergreen, white fir, Soothing Blend, thyme, rosemary, lemon, cypress

Other Products: Bone Nutrient Complex, Phytoestrogen Complex

—Pain:

Oils: Soothing Blend, wintergreen, juniper berry, white fir

—Rotator Cuff: *see* *Joints:Rotator Cuff*

: Dilute as recommended, and apply on location or on reflex points on feet.

: Take capsules as directed. Place 1–2 drops of oil in an empty capsule; swallow.

: **Additional Research:**

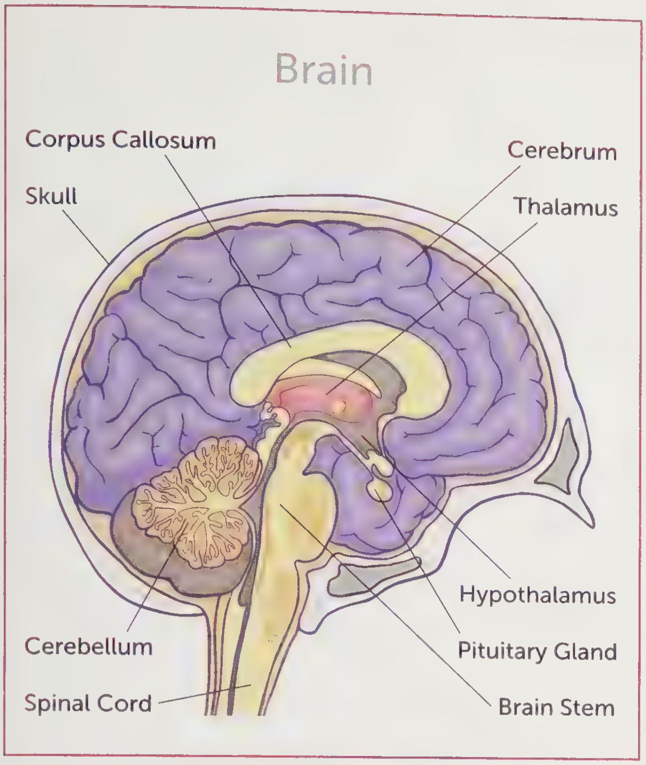
Rosemary and eucalyptus: Oral intake of rosemary or eucalyptus essential oil (as well as several monoterpenes found in other essential oils) was shown to inhibit bone resorption in rats (Mühlbauer et al., 2003).

Bowel

see Digestive System

Brain

The brain is the central part of the nervous system. It is responsible for processing sensory stimuli and for directing appropriate behavioral responses to each stimulus, or set of stimuli. The brain also stores memories and is the center of thought.



Oils: ⊘⊜lavender◌, ○⊘lemon◌, ⊘⊜lemongrass, ⊘⊜clary sage, ⊘⊜cypress, ⊘⊜geranium

Other Products: ○Essential Oil Omega Complex or Vegan Essential Oil Omega Complex or ○Omega-3 Fish Oil for omega-3 fatty acids essential for proper brain function, ○Food Nutrient Complex for vitamins and minerals critical for brain health.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊜: Dilute as recommended, and rub onto the brain stem area, back of neck, temples, behind ears down to jaw, or on reflex points on the feet. Apply as a cold compress.

○: Take capsules as directed on package. Place 1–2 drops of oil under the tongue; or place 1–2 drops of oil in an empty capsule and swallow the capsule.

—Activates Right Brain

Oils: ⊘⊜geranium, ⊘⊜grapefruit, ⊘⊜helichrysum, ⊘⊜wintergreen, ⊘⊜Roman chamomile

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊜: Dilute as recommended, and rub onto the brain stem area, or on reflex points on the feet.

—Aging:

Oils: ○⊜thyme◌, ⊘⊜frankincense, myrrh◌, rose◌

○: Place 1–2 drops of oil under the tongue or place 1–2 drops of oil in an empty capsule; swallow capsule.

⊜: Dilute as recommended, and rub onto the brain stem area, back of neck, temples, behind ears down to jaw, or on reflex points on the feet.

—Broken Blood Vessels: *see Blood:Broken Blood Vessels*

—Concentration: *see Concentration*

—Concussion:

A Concussion is a type of brain injury that causes temporary or permanent impairment in the brain's functioning. Concussions most commonly occur as a result of a blow to the head. Concussion symptoms include headaches, dizziness, blurred vision, vomiting, disorientation, difficulty focusing attention, ringing in the ears, selective memory loss, etc.

Oils: ⊘⊜frankincense◌, ⊜cypress

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊜: Dilute as recommended, and rub onto the brain stem area, back of neck, temples, behind ears down to jaw, or on reflex points on the feet. Apply as a cold compress.

—Injury

Oils: ⊘⊜frankincense◌, ⊘⊜bergamot◌, ⊘⊜peppermint◌, ⊘⊜lemon◌, ⊘⊜Grounding Blend, ⊘⊜lemongrass

⊘: Diffuse into the air. Inhale the aroma of the oil directly.

⊜: Dilute as recommended, and rub onto the brain stem area, back of neck, temples, behind ears down to jaw, or on reflex points on the feet.

—Integration

Oils: ⊘⊜Grounding Blend, ⊘⊜helichrysum, ⊘⊜geranium, ⊘⊜clary sage, ⊘⊜cypress, ⊘⊜lemongrass

⊘: Diffuse into the air. Inhale the aroma of the oil directly.

: Dilute as recommended, and rub onto the brain stem area, back of neck, temples, behind ears down to jaw, or on reflex points on the feet.

—Learning and Memory: *see* Memory

—Mental Fatigue:

Oils: frankincense

—Myelin Sheath:

The myelin sheath is an insulating layer of protein and fatty substances that forms around nerves (including those in the brain), increasing the speed of nerve impulses. Damage to the myelin sheath interrupts these nerve impulses and can cause diseases such as multiple sclerosis, peripheral neuropathy, central pontine myelinolysis, and other neurological diseases.

Oils: peppermint, frankincense, lemongrass, juniper berry, Grounding Blend, geranium

Other Products: Essential Oil Omega Complex or Vegan Essential Oil Omega Complex or Omega-3 Fish Oil, which contains the omega-3 fatty acid DHA that helps support the myelin sheath

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Apply as a cool compress over the brain stem area, back of neck, temples, behind ears down to jaw, or on reflex points on the feet.

—Oxygenate:

Oils: eucalyptus, rosemary, helichrysum, sandalwood, marjoram

Recipe 1: Place three drops each of helichrysum and sandalwood on the back of the neck, on the temples, and behind the ears down to the jaw once or twice a day.

: Diffuse into the air. Inhale the aroma directly.

: Dilute as recommended, and rub onto the brain stem area, back of neck, temples, behind ears down to jaw, or on reflex points on the feet.

—Stroke: *see* Stroke

—Tumor: *see* Cancer:Brain

: Additional Research:

Lavender: Subjects who smelled a cleansing gel with lavender aroma were more relaxed and able to complete math computations faster (Fielt et al., 2005).

Lavender: Subjects exposed to 3 minutes of lavender aroma were more relaxed and were able to perform math computations faster and more accurately. Subjects exposed to rosemary aroma were more alert and completed math computations faster (but not more accurately) (Diego et al., 1998).

Lemon: Several constituents of lemon oil and their metabolites (chemicals made from these constituents by the body) were found to increase the release of monoamines (various chemicals responsible for neurotransmission and neuromodulation) in rat brain tissue, indicating a possible effect on brain nerve cell behavior (Fukumoto et al., 2006).

Lemon: Pretreatment of human and rat astrocyte cells (cells found in the nerve and brain that support the blood-brain barrier and help repair the brain and spinal cord following injuries) with lemon oil was found to inhibit heat-shock induced apoptosis (Koo et al., 2002.

Thyme: Aging rats fed thyme oil or the constituent thymol were found to have higher levels of the antioxidant enzymes superoxide dismutase and glutathione peroxidase in the brain than did aging rats not fed the oil or constituent (Youdim et al., 2000).

Rose: The chloroform extract of *Rosa damascena* was found to cause neurite outgrowth activity in rat cortical neurons subjected to neurotic atrophy conditions. These findings suggest that Rosa damascena possesses neuronal protective properties that may benefit persons with dementia (Awale et al., 2011).

Myrrh: Three new cadinane sesquiterpenes isolated from myrrh resin were found to have neuroprotective activities against 1-methyl-4-phenylpyridinium induced neuronal cell death in a human derived cell line cells (Xu et al., 2011).

Frankincense: Incensole acetate, isolated from frankincense resin, was found to demonstrate an anti-inflammatory and neuroprotective effect in mice with a closed head injury (Moussaieff et al., 2008).

Bergamot: Bergamot essential oil was found to exert neuroprotective effects against brain injury in rats with induced cerebral ischemia (Amantea et al., 2009).

Bergamot: Bergamot essential oil was found to reduce excitotoxic neuronal damage caused by exposure of human neuroblastoma cells to NMDA in vitro, displaying the neuroprotection capabilities of bergamot oil (Corasaniti et al., . 2007).

Peppermint: Pretreatment of human and rat astrocyte cells (cells found in the nerve and brain that support the blood-brain barrier and help repair the brain and spinal cord following injuries) with peppermint oil was found to inhibit heat-shock induced apoptosis of these cells (Koo et al., 2001).

Eucalyptus: Imaging of the brain demonstrated that inhalation of 1,8-cineol (eucalyptol, a constituent of many essential oils, especially eucalyptus, rosemary, and marjoram) increased global cerebral blood flow after an inhalation time of 20 minutes (Nasel et al., 1994).

Rosemary: Imaging of the brain demonstrated that inhalation of 1,8-cineol (eucalyptol, a constituent of many essential oils, especially eucalyptus, rosemary, and marjoram) increased global cerebral blood flow after an inhalation time of 20 minutes (Nasel et al., 1994).

Marjoram: Imaging of the brain demonstrated that inhalation of 1,8-cineol (eucalyptol, a constituent of many essential oils, especially eucalyptus, rosemary, and marjoram) increased global cerebral blood flow after an inhalation time of 20 minutes (Nasel et al., 1994).

(-)-Linalool (found in basil, bergamot, cinnamon, clary sage, coriander, cypress, eucalyptus, fennel (sweet), geranium, ginger, helichrysum, jasmine, lavender, lemon, lemongrass, lime, marjoram, oregano, peppermint, rosemary, tangerine, thyme, wild orange, and ylang ylang essential oils): In two mice models of chronic pain, inflammatory pain and neuropathic pain, (-)-linalool was able to promote marked and long-lasting reduction in sensitivity to pain when compared to the control (Batista et al., 2010).

Bergamot: Using a mouse model of neuropathic pain, researchers discovered that injections of bergamot or linalool (a main chemical constituent of bergamot) provided reduction of pain symptoms by inhibiting phosphorylation of the spinal ERK pathway (Kuwahata et al., 2013).

Breast

see also Cancer:Breast. For issues related to lactation and motherhood, *see* Pregnancy/Motherhood

Oils: ⊖clary sage, ⊖geranium, ⊖lemongrass, ⊖fennel, ⊖cypress, ⊖vetiver

—Enlarge and Firm:

Oils: ⊖clary sage

⊖: Dilute as recommended, and apply on location or on reflex points on feet.

Breathing

see *Respiratory System:Breathing*

Bronchitis

see also *Antibacterial, Antifungal, Antiviral, Congestion, Inflammation, Respiratory System*

Bronchitis is the inflammation of the bronchi (the tubes that lead from the trachea to the lungs). Symptoms include coughing, breathlessness, and thick phlegm.

Oils: ⊘⊖eucalyptus◌, ⊘⊖thyme◌, ⊘⊖white fir, ⊘⊖basil, ⊘⊖Respiratory Blend, ⊘⊖Protective Blend, ⊘⊖clary sage, ⊘⊖cypress, ⊘⊖cedarwood, ⊘⊖melaleuca, ⊘⊖marjoram, ⊘⊖peppermint, ⊘⊖rosemary, ⊘⊖wintergreen, ⊘⊖myrrh, ⊘⊖clove, ⊘⊖frankincense, ⊘⊖ginger, ⊘⊖lavender, ⊘⊖lemon, ⊘⊖sandalwood, ⊘⊖bergamot

—Chronic

Oils: ⊖⊘eucalyptus, ⊖⊘oregano, ⊖⊘sandalwood

—Children

Oils: ⊖⊘eucalyptus, ⊖⊘melaleuca, ⊖⊘lavender, ⊖⊘Roman chamomile, ⊖⊘rosemary

—Clear Mucus:

Oils: ⊖⊘sandalwood, ⊖⊘thyme, ⊖⊘bergamot, ⊖⊘Protective Blend,

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊖: Dilute as recommended, and apply to chest, sinuses, neck, or reflex points on the feet. Add 2–3 drops to water; gargle.

◌: **Additional Research:**

Eucalyptus: Extracts from eucalyptus and thyme were found to have high nitrous oxide scavenging abilities and inhibited nitrous oxide production in macrophage cells. This could possibly explain their role in aiding respiratory inflammatory diseases (Vigo et al., 2004).

Eucalyptus: Eucalyptus oil was found to have an anti-inflammatory and mucin-inhibitory effect in rats with lipopolysaccharide-induced bronchitis (Lu et al., 2004).

Eucalyptus: Therapy with 1,8 cineole (eucalyptol) in both healthy and bronchitis-afflicted humans was shown to reduce production of LTB4 and PGE2 (both metabolites of arachidonic acid, a known chemical messenger involved in inflammation) in white blood cells (Juergens et al., 1998).

Thyme: Extracts from eucalyptus and thyme were found to have high nitrous oxide scavenging abilities and inhibited nitrous oxide production in macrophage cells. This could possibly explain their role in aiding respiratory inflammatory diseases (Vigo et al., 2004).

Bruises

see also Capillaries

A bruise is an injury to tissue that results in blood capillaries breaking and spilling blood into the tissue. This can cause swelling, soreness, and a visible discoloration when the bruise is near the skin.

Oils: ⊖helichrysum, ⊖geranium, ⊖fennel, ⊖Soothing Blend (for pain), ⊖Protective Blend, ⊖lavender

⊖: Dilute as recommended, and apply 1–2 drops on location.

Bugs

see *Insects/Bugs*

Bulimia

see *Eating Disorders:Bulimia*

Bunions

see *Bursitis:Bunion*

Burns

A burn is an injury to tissue caused by heat, chemicals, or radiation. The tissue most often affected by burns is the skin. Minor burns can cause redness and pain over a small area and do not break the skin. For minor heat burns, immediately immerse the affected skin in cool water to stop the heat from causing more damage to the tissue. More serious burns that involve areas of the body larger than the palm of the hand or that involve blistering, swelling, intense pain that lasts for more than a day, or visible skin damage should be attended to by a medical professional. Skin damaged by burns is more prone to developing infection as it cannot act as a barrier against invading microorganisms.

Oils: ⊖lavender, ⊖geranium, ⊖melaleuca, ⊖peppermint, ⊖helichrysum, ⊖Roman chamomile

Other Products: ○Food Nutrient Complex to help replace minerals depleted from the skin and tissues surrounding a burn.

—Infected:

Oils: Cleansing Blend

—Pain:

Oils: lavender

—Healing:

Oils: lavender

Blend 1: Blend together 1 drop geranium and 1 drop helichrysum; apply on location.

—Peeling:

Oils: lavender

—Sunburn:

Oils: lavender, melaleuca, Roman chamomile

Recipe 1: Place 10 drops lavender in a 4 oz. misting spray bottle filled with distilled water. Shake well, and spray on location to aid with pain and healing.

—Sun Screen:

Oils: helichrysum

: Dilute as recommended, and apply on location. Add 2–3 drops oil to 1 oz. water in a spray bottle; shake well, and mist on location.

Bursitis

Bursitis is the inflammation of the fluid-filled sack located close to joints that provides lubrication for tendons, skin, and ligaments rubbing against the bone. Bursitis is caused by infection, injury, or diseases such as arthritis and gout. Bursitis causes tenderness and pain which can limit movement.

Oils: Grounding Blend, white fir, basil, cypress, Soothing Blend, ginger, Roman chamomile, marjoram, juniper berry, wintergreen

Recipe 1: Apply 1–3 drops each of Grounding Blend, white fir, and basil on location. Alternate cold and hot packs (10 min. cold and then 15 min. hot) until pain subsides.

Recipe 2: Apply 6 drops marjoram on shoulders and arms, and wait six minutes. Then apply 3 drops of wintergreen, and wait six minutes. Then apply 3 drops cypress.

—Bunion:

A bunion is bursitis of the big toe. It is often caused by constrictive shoes that force the big toe to point inward and the base of the big toe to jut outward. This misplacement can irritate the bursa at the base of the toe and cause it to become inflamed, causing further irritation.

Oils: cypress, juniper berry

: Dilute as recommended, and apply 1–2 drops on location.

Callouses

see Skin:Callouses

Calming

see also Anxiety

Oils: lavender, Focus Blend, ylang ylang, melissa, Calming Blend, cedarwood, Invigorating Blend, myrrh, juniper berry

—Agitation:

Oils: lavender, ylang ylang, geranium, bergamot, Calming Blend, sandalwood, cedarwood, Grounding Blend, marjoram, myrrh, clary sage, rose, frankincense, Joyful Blend

—Anger:

Oils: Calming Blend, lavender, ylang ylang, Grounding Blend, Joyful Blend, bergamot, geranium, cedarwood, frankincense, sandalwood, cypress, lemon, myrrh, marjoram, helichrysum, rose, orange

—Hyperactivity:

Oils: Focus Blend, lavender, Calming Blend, Grounding Blend, Roman chamomile, Invigorating Blend

—Sedative:

Oils: lavender, Calming Blend, Invigorating Blend, bergamot, ylang ylang, cedarwood, geranium, vetiver, juniper berry, frankincense, sandalwood, orange, rose, lemongrass, clary sage, marjoram

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊜: Dilute as recommended, and apply 1–2 drops to back of neck, temples, chest, shoulders, back, or reflex points on the feet. Place 1–2 drops in 1 Tbs. fractionated coconut oil, and massage into the back, shoulders, neck, or arms.

: **Additional Research:**

Lavender: Lavandula angustifolia essential oil demonstrated ability to inhibit GABA-A receptor channels of rat brain cells (Huang et al., 2008).

Lavender: Inhaling lavender oil was found to be effective at alleviating agitated behaviors in older Chinese patients suffering from dementia (Lin et al., 2007).

Lavender: Female patients waiting for dental treatment were found to be less anxious, more positive, and more calm when exposed to orange oil odor than were patients who were not exposed to the orange oil odor (Lehrner et al., 2000).

Lavender: Exposure to inhaled lavender oil and to its constituents, linalool and linalyl acetate, was found to decrease normal movement in mice as well as to return mice to normal movement rates after caffeine-induced hyperactivity (Buchbauer et al., 1991).

Lavender: Swiss mice fed lavender oil diluted in olive oil were found to be more sedate in several common behavioral tests (Guillemain et al., 1989).

Lavender: Linalool, found in several essential oils, was found to inhibit induced convulsions in rats by directly interacting with the NMDA receptor complex (Brum et al., 2001).

Ylang ylang: In human trials, the aroma of peppermint was found to enhance memory and to increase alertness, while ylang ylang aroma was found to increase calmness (Moss et al., 2008).

Ylang ylang: Subjects who had ylang ylang oil applied to their skin had decreased blood pressure, increased skin temperature, and reported feeling more calm and relaxed, as compared to subjects in a control group (Hongratanaworakit et al., 2006).

Melissa: Melissa (lemon balm) oil applied topically in a lotion was found to reduce agitation and to improve quality of life factors in patients suffering severe dementia, as compared to those receiving a placebo lotion (Ballard et al., 2002).

Geranium: Geraniol and eugenol, two components of rose oil (among others), were found to demonstrate antianxiety effects on mice in several tests (Umezo et al., 2008).

Ylang ylang: In healthy control subjects, inhalation of ylang ylang aroma significantly reduced the P300 (an event-related potential interpreted to reflect attentional allocation and working memory) amplitude when compared to inhalation without aroma. These results suggest that ylang ylang produces a relaxing effect on cognition (Watanabe et al., 2013).

Bergamot: A study using 114 subjects found that listening to soft music and/or inhaling *Citrus bergamia* essential oil were effective methods of relaxation, as indicated by a shift of the autonomic balance toward parasympathetic (Peng et al., 2009).

Cancer

Cancer can be any of many different conditions where the body's cells duplicate and grow uncontrollably, invade healthy tissues, and possibly spread throughout the body. It is estimated that 95% of cancers result from damage to DNA during a person's lifetime rather than from a pre-existing genetic condition (American Cancer Society, 2008). The most important factor leading to this DNA damage is DNA mutation. DNA mutation can be caused by radiation, environmental chemicals we take into our bodies, free radical damage, or DNA copying or division errors. If the body is working properly, it can correct these mutations either by repairing the DNA or by causing the mutated cell to die. When the DNA mutation is severe enough that it allows the cell to bypass these controls, however, the mutated DNA can be copied to new cells that continue to replicate and create more and more new cells uncontrollably, leading to a cancerous growth within an individual.

Oils: ⊘O⊜frankincense, ⊜O⊘sandalwood, ⊘⊜lavender, OCellular Complex, ⊜⊘arborvitae, ⊜⊘Orosemary, ⊘⊜Olemongrass, ⊘O⊜clove, ⊘⊜basil, ⊜O⊘geranium, ⊘O⊜clary sage, ⊜citrus oils, ⊜rose

Other Products: OCellular Vitality Complex contains multiple nutrients that have been studied for their abilities to combat different types of cancer, including polyphenols (such as resveratrol, baicalin, EGCG, quercetin, ellagic acid, and catechin) and coenzyme Q10. OEssential Oil Omega Complex or Vegan Essential Oil Omega Complex or OOmega-3 Fish Oil and OFood Nutrient Complex to help support cellular and immune function.

Note: Health care professionals are emphatic about avoiding heavy massage when working with cancer patients. Light massage may be used—but never over the trauma area.

—Bone:

Oils: ⊜frankincense

—Brain:

Oils: ⊘⊜frankincense, ⊘⊜myrrh, ⊘⊜clove

Recipe 1: Combine 15 drops frankincense, 6 drops clove, and 1 Tbs. fractionated coconut oil. Massage lightly on spine every day. Diffuse 15 drops frankincense and 6 drops clove for 30 minutes, three times a day.

Recipe 2: Diffuse frankincense, and massage the brain stem area lightly with frankincense neat.

—Breast:

Oils: ⊜⊘rosemary, ⊜⊘lavender, ⊘⊜frankincense, ⊘⊜arborvitae, ⊜⊘clary sage, ⊘⊜clove, ⊘⊜basil, ⊘⊜sandalwood, ⊘⊜oregano, ⊘⊜lemongrass, ⊘⊜marjoram

—Cervical:

Oils: frankincense, geranium, white fir, cypress, clove, lavender, lemon

—Colon:

Oils: lavender, geranium, frankincense, arborvitae, lemongrass

—Leukemia:

Oils: frankincense, lemongrass, rosemary, clary sage, clove

—Liver:

Oils: frankincense, lemongrass, lavender, rosemary

—Lung:

Oils: frankincense (apply to chest, or mix 15 drops with 1 tsp. fractionated coconut oil for nightly rectal retention enema), lavender

—Prostate

Oils: frankincense (blend 15 drops with 1 tsp. fractionated coconut oil for nightly rectal retention enema), arborvitae

—Skin/Melanoma:

Oils: Hawaiian sandalwood, arborvitae, frankincense, citrus oils

—Throat:

Oils: frankincense, lavender

—Uterine:

Oils: geranium, frankincense

: Dilute as recommended, and apply 1–5 drops on location and on reflex points on the feet and hands. Apply as a warm compress over affected area.

: Diffuse into the air. Inhale oil directly or applied to hands, tissue, or a cotton wick.

: Take capsules as recommended on package. Place 1–2 drops of oil under the tongue or add 1–3 drops of oil in an empty capsule; swallow capsule. Repeat up to twice daily as needed.

: **Additional Research:**

Frankincense: An extract from Boswellia carterii was found to induce apoptosis (cell death) in 2 leukemia cell lines (Hunan et al., 1999).

Frankincense: An extract from frankincense was found to produce apoptosis in human leukemia cells (Bhushan et al., 2007).

Frankincense: β-elemene—a sesquiterpene found in curcumin and Boswellia frereana and black pepper essential oils—is currently being studied for its promising potential to induce apoptosis and inhibit cancer cell proliferation in ovarian (Zou et al, 2013), liver (Dai et al, 2013), breast (Zhang et al., 2013, Ding et al., 2013), bladder (Li et al, 2013), lung (Li et al., 2013, Chen et al., 2012), and brain (Li et al., 2013) cancer cell lines, both on its own, and in combination with cisplatin chemotherapy.

Frankincense: Ethanol extract of Boswellia serrata demonstrated antiproliferative effects on 5 leukemia and two brain tumor cell lines. It was more potent than one type of Boswellic acid (AKBA) on three leukemia cell lines (Hostanska et al., 2002).

Frankincense: β-elemene was found to induce apoptosis in brain tumor cells (Li et al., 2013).

Frankincense: Derivatives of β-elemene were found to induce apoptosis in human leukemia cells (Yu et al., 2011).

Frankincense: Proliferation of human hepatoma cells was found to be inhibited by β-elemene in vitro (Dai et al., 2013).

Frankincense: β-elemene, found in Boswellia frereana and black pepper essential oils, was found to have anti-lung cancer properties (Chen et al., 2012).

Frankincense: Beta-elemene was found to decrease MCF-7 human breast cancer cell migration and invasion (Zhang et al., 2013).

Sandalwood: Oral sandalwood oil use enhanced GST activity (a protein in cell membranes that can help eliminate toxins) and acid-soluble SH levels. This suggests a possible chemopreventive action on carcinogenesis (Banerjee et al., 1993).

Sandalwood: Alpha-santalol was found to induce apoptosis in human skin cancer cells (Kaur et al., 2005).

Sandalwood: A solution of 5% alpha-santalol (from sandalwood) was found to prevent skin-tumor formation caused by ultraviolet-b (UVB) radiation in mice (Dwivedi et al., 2006).

Sandalwood: Various concentrations of alpha-santalol (from sandalwood) were tested against skin cancer in mice. All concentrations were found to inhibit skin cancer development (Dwivedi et al., 2005).

Sandalwood: Alpha-santalol, derived from sandalwood EO, was found to delay and decrease the incidence and multiplicity of skin tumor (papilloma) development in mice (Dwivedi et al., 2003).

Sandalwood: Sandalwood oil was found to decrease skin papilloma (tumors) in mice (Dwivedi et al., 1997).

Sandalwood: Pretreatment with alpha-santalol (found in sandalwood) before UVB (ultraviolet-b) radiation significantly reduced skin tumor development and multiplicity and induced proapoptotic and tumor-suppressing proteins (Arasada et al., 2008).

Lavender: In tests for mutagenicity, both tea tree and lavender oils were found to not be mutagenic. In fact, lavender oil was found to have strong antimutagenic activity, reducing mutations of cells exposed to a known mutagen (Evandri et al., 2005).

Lavender: Perillyl alcohol (found in caraway, lavender, and mint), EGCG (polyphenol from green tea), squalene (a triterpene derived from sharks and other vegetable material), and EPA (an essential fatty acid from fish or microalgae) were found to inhibit hyperproliferation of mammary epithelial cells prior to tumorigenisis (Katdare et al., 1997).

Lavender: Rats fed diets containing perillyl alcohol (derived from lavender plants) were found to have less incidence of colon tumors and less multiplicity of tumors in the colon compared to control. Colon tumors of animals fed perillyl alcohol were found to exhibit increased apoptosis of cells compared to control (Reddy et al., 1997).

Lavender: Mice treated with perillyl alcohol (found in lavender and mint plants) had a 22% reduction in tumor incidence and a 58% reduction in tumor multiplicity during a mouse lung tumor bioassay (Lantry et al., 1997).

Lavender: Rats with liver tumors that were treated with perillyl alcohol had smaller tumor sizes than untreated rats due to apoptosis in cancer cells in treated rats (Mills et al., 1995).

Arborvitae: Hinokitiol was found to induce autophagic signaling in murine breast and colorectal tumor cells in vitro (Wang et al., 2014).

Arborvitae: Mice implanted with human colon cancer tumor cells saw a decrease in tumor size and weight when treated with β-thujaplicin (hinokitiol) (Lee et al., 2013).

Arborvitae: Hinokitiol demonstrated inhibition of cell growth and DNA synthesis in human melanoma cells in vitro (Liu et al., 2009).

Rosemary: Rosemary extract injected in rats was found to decrease mammary adenocarcinomas in rats (Singletary et al., 1996).

Rosemary: An ethanol extract of rosemary was found to have an antiproliferative effect on human leukemia and breast carcinoma cells, as well as an antioxidant effect (Cheung et al., 2007).

Rosemary: Carnosic acid (derived from rosemary) was found to inhibit the proliferation of human leukemia cells in vitro (Steiner et al., 2001).

Rosemary: Rosemary extracts induced CYP (cytochrome 450) activity in liver cells, suggesting a possibility of increased ability to remove toxins (Debersac et al., 2001).

Lemongrass: Citral (found in lemongrass, melissa, and verbena oils) was found to induce apoptosis in several cancer cell lines (hematopoietic cells=stem cells that create blood cells) (Dudai et al., 2005).

Lemongrass: Lemongrass oil was found to inhibit multiple cancer cell lines, both in vitro and in vivo, in mice (Sharma et al., 2009).

Lemongrass: Geraniol (found in geranium and lemongrass oil, among others) was found to inhibit colon cancer cell growth while inhibiting DNA synthesis in these cells (Carnesecchi et al., 2001).

Lemongrass: Lemongrass oil and its constituent, isointermedeol, were found to induce apoptosis in human leukemia cells (Kumar et al., 2008).

Lemongrass: An extract from lemongrass was found to inhibit hepatocarcinogenesis (liver cancer genesis) in rats (Puatanachokchai et al., 2002).

Clove: Beta-caryophyllene (found in clove) was found to increase the anticancer activities of paclitaxel (a chemotherapy drug derived from the yew tree) (Legault et al., 2007).

Clary Sage: Sclareol, a chemical constituent found in clary sage essential oil, was found to reduce regulatory T cells frequency and also tumor size in a mouse model of breast cancer, suggesting that sclareol can enhance the effect of cancer therapy as an immunostiumlant (Noori et al., 2013).

Basil: Basil extract was found to inhibit the growth of MCF-7 breast cancer cells, possess antioxidant activity, and protect against DNA damage (Al-Ali et al., 2013).

Basil: Basil and its component, linalool, were found to reduce spontaneous mutagenesis in bacteria cells (Berić et al., 2008).

Geranium: Geraniol (found in geranium and lemongrass oil, among others) was found to inhibit colon cancer cell growth while inhibiting DNA synthesis in these cells (Carnesecchi et al., 2001).

Clary Sage: Sclareol, from clary sage oil, was found to have a cytostatic effect in human leukemia cell lines (Dimas et al., 1999).

Clove: Eugenol, a major chemical constituent of clove essential oil, was found to induce apoptosis in human leukemia cells via reactive oxygen species generation (Yoo et al., 2005).

Citrus oils: In a study of older individuals, it was found that there was a dose-dependent relationship between citrus peel (which are high in d-limonene) consumption and a lower degree of squamous cell carcinoma (SCC) of the skin (Hakim et al., 2000).

Resveratrol: Resveratrol was found to act as an antioxidant and antimutagen in addition to inhibiting several types of cancer cells (Jang et al., 1997).

Resveratrol: Human leukemia cells were found to be irreversibly inhibited by resveratrol, while the effects of resveratrol on nonmalignant human lymphoblastoid cells was largely reversible, suggesting a selective growth inhibition of leukemia cells (Lee et al., 2008).

Resveratrol: A combination of resveratrol, quercetin, and catechin administered orally was found to reduce primary tumor growth of breast cancer tumors in nude mice (Schlachterman et al., 2008).

Baicalin: Baicalin was found to inhibit cyclobutane pyrimidine dimers (a precursor to skin cancer) in fibroblast cells exposed to UVB radiation (Zhou et al., 2008).

Baicalin: Baicalin was found to inhibit several different breast cancer cell lines (Franek et al., 2005).

Baicalin: Baicalin was found to inhibit two prostate cancer cell lines in vitro (Miocinovic et al., 2005).

EGCG: The polyphenol EGCG from green tea was found to inhibit the ability of bronchial tumor cells to migrate in vitro (Hazgui et al., 2008).

EGCG: EGCG was found to inhibit pancreatic cancer growth, invasion, metastasis and angiogenesis (ability to create blood vessels) in mice (Shankar et al., 2008).

Quercetin: A combination of resveratrol, quercetin, and catechin administered orally was found to reduce primary tumor growth of breast cancer tumors in nude mice (Schlachterman et al., 2008).

Quercetin: A combination of low-frequency ultrasound followed by treatment with quercetin was found to selectively kill cancerous skin and prostate cancer cells, while having no effect on nonmalignant skin cells (Paliwal et al., 2005).

Quercetin: Quercetin was found to inhibit and induce apoptosis in cancerous prostate cells, but not in normal prostate epithelial cells in vitro (Aalinkeel et al., 2008).

Quercetin: In a large human study, it was found that increased flavonoid intake in male smokers was found to decrease the risk of developing pancreatic cancer (Bobe et al., 2008).

Quercetin: Flavonol intake was found to reduce the risk of developing pancreatic cancer among smokers (Nothlings et al., 2007).

Quercetin: Flavonol intake (including flavonols such as epicatechin, catechin, quercetin, and kaempferol) was found to be inversely associated with lung cancer among tobacco smokers (Cui et al., 2008).

Ellagic acid: Oral supplementation with ellagic acid was found to decrease the number of induced esophageal tumors in rats, compared to a control (Mandal et al., 1990).

Catechin: A combination of resveratrol, quercetin, and catechin administered orally was found to reduce primary tumor growth of breast cancer tumors in nude mice (Schlachterman et al., 2008).

Catechin: In a large human study, it was found that increased flavonoid intake in male smokers was found to decrease the risk of developing pancreatic cancer (Bobe et al., 2008).

Catechin: Flavonol intake was found to reduce the risk of developing pancreatic cancer among smokers (Nothlings et al., 2007).

Catechin: Flavonol intake (including flavonols such as epicatechin, catechin, quercetin, and kaempferol) was found to be inversely associated with lung cancer among tobacco smokers (Cui et al., 2008).

Myrrh: Treatment with elemene (found in myrrh oil) was found to increase survival time and to reduce tumor size in patients with malignant brain tumor, as compared to treatment with chemotherapy (Tan et al., 2000).

Geranium: Geraniol (found in geranium and lemongrass oil, among others) was found to inhibit colon cancer cell growth while inhibiting DNA synthesis in these cells (Carnesecchi et al., 2001).

Hawaiian Sandalwood: Alpha-santalol was found to induce apoptosis in human skin cancer cells (Kaur et al., 2005).

Hawaiian Sandalwood: A solution of 5% alpha-santalol (from sandalwood) was found to prevent skin-tumor formation caused by ultraviolet-b (UVB) radiation in mice (Dwivedi et al., 2006).

Hawaiian Sandalwood: Various concentrations of alpha-santalol (from sandalwood) were tested against skin cancer in mice. All concentrations were found to inhibit skin cancer development (Dwivedi et al., 2005).

Hawaiian Sandalwood: Alpha-santalol, derived from sandalwood EO, was found to delay and decrease the incidence and multiplicity of skin tumor (papilloma) development in mice (Dwivedi et al., 2003).

Hawaiian Sandalwood: Sandalwood oil was found to decrease skin papilloma (tumors) in mice (Dwivedi et al., 1997).

Hawaiian Sandalwood: Pretreatment with alpha-santalol (found in sandalwood) before UVB (ultraviolet-b) radiation significantly reduced skin tumor development and multiplicity and induced proapoptotic and tumor-suppressing proteins (Arasada et al., 2008).

Candida

see Antifungal:Candida

Canker Sores

Canker sores are small, round sores that develop in the mouth, typically inside the lips and cheeks or on the tongue.

Oils: melaleuca, oregano, Protective Blend, Roman chamomile, myrrh

: Dilute as recommended, and apply 1 drop on location.

Capillaries

Capillaries are the small, thin blood vessels that allow the exchange of oxygen and other nutrients from the blood to cells throughout the body and allow the exchange of carbon dioxide and other waste materials from these tissues back to the blood. The capillaries connect the arteries (that carry blood away from the heart) and veins (that carry blood back to the heart).

—Broken Capillaries:

Oils: geranium, cypress, oregano, thyme, Roman chamomile

Blend 1: Apply 1 drop lavender and 1 drop Roman chamomile on location.

: Dilute as recommended, and apply 1–2 drops on location.

Carbuncles

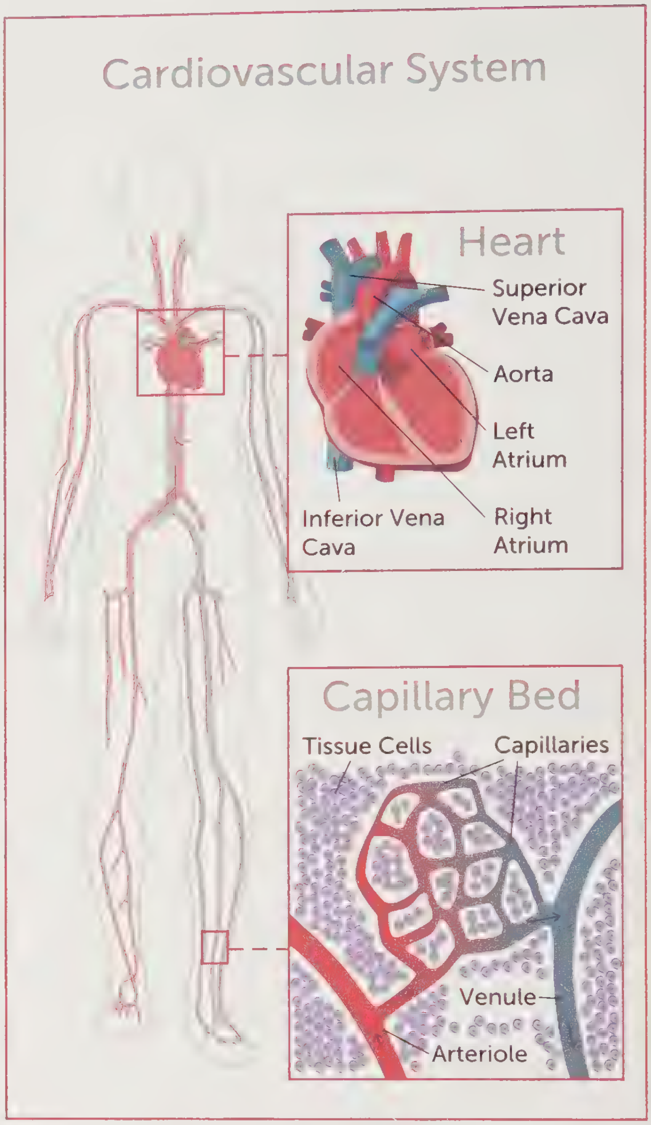
see Boils

Cardiovascular System

The cardiovascular—or circulatory—system is the system responsible for transporting blood to the various tissues throughout the body. It is comprised of the heart and blood vessels such as arteries, veins, and capillaries.

Oils: orange, cypress, cinnamon, sandalwood, thyme

Other Products: Cellular Vitality Complex and Chewable Multivitamin, contain several polyphenols (including proanthocyanidin polyphenols from grape seed, the polyphenols EGCG, and ellagic acid) and coenzyme Q10, which have been found to have beneficial cardiovascular effects.


Cardiovascular System

: Dilute oils as recommended, and apply oils to area: to carotid arteries, heart, feet, under left ring finger, above elbow, behind ring toe on left foot, and to reflex points on the feet. Add 1–2 drops to bathwater for a bath. Add 1–2 drops to 1 Tbs. fractionated coconut oil for massage oil, and massage on location or on chest, neck, or feet.

: Diffuse into the air. Inhale oil applied to hands, tissue, or cotton wick.

—Angina:

Angina is pain in the chest due to a lack of blood flow to the heart. Angina is felt as a squeezing, tightening, aching, or pressure in the chest. The pain can also extend to the arms, back, jaw, neck, and teeth.

Oils: ginger, orange (for false angina)

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

⊜: Massage gently onto chest and feet, and apply on carotid artery.

⊘: Diffuse into the air.

—Arrhythmia:

Arrhythmia is any abnormal heart rhythm. *See also Palpitations and Tachycardia below.*

Oils: ⊘⊜ylang ylang, ⊘⊜lavender, ⊘⊜Soothing Blend

⊘: Diffuse into the air. Inhale the aroma.

⊜: Dilute oils as recommended, and apply oils to carotid arteries, heart, feet, under left ring finger, above elbow, behind ring toe on left foot, and to reflex points on the feet.

—Atherosclerosis:

Atherosclerosis is a hardening of the arteries due to a buildup of plaques (called atheromas) along the arterial wall.

Oils: ○⊜⊘lemon, ⊘lavender, ○⊘melissa, ○⊘dill, ○Cellular Complex, ⊜rosemary, ⊜ginger, ⊜thyme, ⊜wintergreen

⊘: Diffuse into the air.

○: Take 1–2 drops under the tongue or in a capsule or with water.

⊜: Massage gently onto chest and feet, and apply on carotid artery.

—Blood Pressure: *see Blood:Blood Pressure*

—Cardiotonic:

Oils: ⊜⊘lavender, ⊜⊘thyme

⊜: Dilute oils as recommended, and apply oils to carotid arteries, heart, feet, under left ring finger, above elbow, behind ring toe on left foot, and to reflex points on the feet.

⊘: Diffuse into the air. Inhale the aroma.

—Circulation:

Oils: ⊜⊘cypress, ⊜⊘thyme, ⊜⊘peppermint, ⊜⊘clary sage, ⊜⊘wintergreen, ⊜⊘Invigorating Blend, ⊜⊘rosemary, ⊜⊘geranium, ⊜⊘cinnamon, ⊜⊘helichrysum, ⊜⊘Calming Blend, ⊜⊘basil

⊜: Add 1–2 drops to 1 Tbs. fractionated coconut oil for massage oil, and massage on location or on chest, neck, or feet.

⊘: Diffuse into the air. Inhale the aroma.

—Heart:

Oils: ⊘⊜ylang ylang, ⊜⊘marjoram ⊜⊘geranium, ⊜⊘cypress, ⊜Grounding Blend, ⊜⊘ginger, ⊘⊜lavender, ⊜⊘rosemary, ⊜Soothing Blend

⊜: Dilute oils as recommended, and apply oils to carotid arteries, heart, feet, under left ring finger, above elbow, behind ring toe on left foot, and to reflex points on the feet.

⊘: Diffuse into the air. Inhale the aroma.

—Heart Tissue

Oils: ⊜⊘marjoram, ⊜⊘lavender, ⊜⊘peppermint, ⊜⊘rosemary, ⊜cinnamon, ⊜rose

⊜: Dilute oils as recommended, and apply oils to carotid arteries, heart, feet, under left ring finger, above elbow, behind ring toe on left foot, and to reflex points on the feet.

⊘: Diffuse into the air. Inhale the aroma.

—High Cholesterol: *see Cholesterol*

—Hypertension: *see Blood:Blood Pressure*

—Palpitations:

Palpitations are rapid and forceful contractions of the heart.

Oils: ⊘⊜ylang ylang, ⊘⊜orange, ⊘⊜lavender, ⊘⊜melissa, ⊘⊜peppermint

⊜: Dilute oils as recommended, and apply oils to carotid arteries, heart, feet, under left ring finger, above elbow, behind ring toe on left foot, and to reflex points on the feet.

⊘: Diffuse into the air. Inhale the aroma.

—Phlebitis:

Phlebitis is the inflammation of a superficial vein, typically in the legs or groin area. Wearing support hose or a compression bandage over the affected area can help aid in healing.

Oils: ⊜⊘helichrysum, ⊜⊘lavender, ⊜⊘cypress, ⊜⊘geranium, ⊜⊘grapefruit, ⊜⊘Grounding Blend

⊜: Add 1–2 drops to 1 Tbs. fractionated coconut oil for massage oil, and gently massage on location or on feet.

⊘: Diffuse into the air. Inhale the aroma.

—Prolapsed Mitral Valve:

Oils: ⊜⊘marjoram

: Dilute oils as recommended, and apply oils to carotid arteries, heart, feet, under left ring finger, above elbow, behind ring toe on left foot, and to reflex points on the feet.

: Diffuse into the air. Inhale the aroma.

—Tachycardia:

Tachycardia is an abnormally rapid resting heart rate, indicating a possible over-working of the heart.

Oils: lavender, ylang ylang, orange

: Dilute oils as recommended, and apply oils to carotid arteries, heart, feet, under left ring finger, above elbow, behind ring toe on left foot, and to reflex points on the feet.

: Diffuse into the air. Inhale the aroma.

: Additional Research:

Thyme: Older rats whose diets were supplemented with thyme oil were found to have a higher level of the antioxidant enzymes superoxide dismutase and glutathione peroxidase in the heart, liver, and kidneys, as compared to older rats without this supplementation (Youdim et al., 1999).

Grape seed: An extract of proanthocyanidin polyphenols from grape seed taken as a supplement was found to significantly reduced oxidize LDL (a risk factor for cardiovascular disease) in people with high cholesterol (Bagchi et al., 2003).

EGCG: People who habitually consumed beverages containing EGCG were found to have significantly lower incidences of cardiovascular events (Basu et al., 2007).

EGCG: Supplementation with EGCG was found to lower blood pressure in humans (Brown et al., 2008).

EGCG: EGCG was found to reduce heart weight and cardiac marker enzyme activities in induced heart attacks in rats (Devika et al., 2008).

Ellagic acid: Ellagic acid was found to reduce induced LDL oxidization in vitro (Anderson et al., 2001).

Ellagic acid: Ellagic acid was found to significantly inhibit oxidized LDL proliferation of rat aortic smooth muscle cells (Chang et al., 2008).

Ellagic acid: Supplementation with ellagic acid was found to significantly reduce the amount of atherosclerotic lesions in rabbits fed a high-cholesterol diet (Yu et al., 2005).

Coenzyme Q10: In patients with coronary artery disease, supplementation with CoQ10 was found to improve extracellular superoxide dismutase activity, endothelium-dependent vasodilation, and peak oxygen volume capacity at a level significantly higher as compared to control (Tiano et al., 2007).

Coenzyme Q10: Oral supplementation with CoQ10 was found to improve endothelial function (cells that line the blood vessels) and aerobic capacity of the cardiovascular system in patients with chronic heart failure (Belardinelli et al., 2006).

Coenzyme Q10: Supplementation with CoQ10 was found to improve endothelial dysfunction of the brachial artery in 25 male patients with manifest endothelial dysfunction (Kuettner et al., 2005).

Coenzyme Q10: Chronic heart failure patients receiving CoQ10 supplementation were found to have an improvement in left-ventricle contractility without any side effects (Belardinelli et al., 2005).

Ylang ylang: Inhaled ylang ylang oil was found to decrease blood pressure and pulse rate and to enhance attentiveness and alertness in volunteers compared to an odorless control (Hongratanaworakit et al., 2004).

Lemon: Lemon oil and one of its components, gamma-terpinene, were found to inhibit oxidation of low-density lipoprotein (LDL). Oxidation of LDL has been found to increase the risk of atherosclerosis and cardiac disease (Grassmann et al., 2001).

Lavender: Inhalation of lavender and monarda oils was found to reduce cholesterol content and atherosclerotic plaques in the aorta (Nikolaevski⊠ et al., 1990).

Melissa: Melissa essential oil was found to have hypolipidemic effects in transgenic mice. Mice orally administered Melissa essential oil for two weeks had lower plasma triglyceride concentrations and altered metabolic pathways. These results indicate that melissa oil could be beneficial in preventing hypertriglyceridemia, one of the main contributors to the development of cardiovascular disease (Jun et al., 2012).

Dill: Different fractions of *Anethum graveolens* extract improved hypercholesterolemia in rats fed a high fat diet. Hypercholesterolemia has been found to be a risk factor for the development of atherosclerosis (Bahramikia et al., 2009).

Basil: Short-term oral administration of the hydroalcoholic extract of basil leaves to rats was found to protect the muscular tissue of the heart against a chemically induced heart attack (Fathiazad et al., 2012).

Carpal Tunnel Syndrome

Carpal tunnel syndrome is a painful condition of the hand, wrist, and fingers. This condition is caused by inflamed carpal ligaments in the wrist causing pressure on the median nerve. The carpal ligaments can become inflamed due to one of many possible factors: wrist trauma or injury, fluid retention, work stress, or certain strenuous wrist activities. Symptoms include tingling or numbness of the fingers and hand, pain starting in the wrist and extending to the arm or shoulder or to the palms or fingers, a general sense of weakness, and difficulty grasping small objects.

Oils: frankincense, basil, marjoram, lemongrass, oregano, cypress, eucalyptus, lavender

Recipe 1: Apply 1 drop basil and 1 drop marjoram on the shoulder, and massage oils into the skin. Then apply 1 drop lemongrass on the wrist and 1 drop oregano on the rotator cuff in the shoulder, and massage into the skin. Next apply 1 drop marjoram and 1 drop cypress on the wrists and 1 drop cypress on the neck down to the shoulder, and massage into the skin. Lastly, apply peppermint from the shoulder down the arm to the wrist and then out to the tips of each finger, and massage into the skin.

: Dilute oils as recommended, and apply oils on area of concern Add 1–2 drops to 1 Tbs. fractionated coconut oil for massage oil, and massage on location.

Cartilage

see *Bones:Cartilage, Muscles/Connective Tissue:Cartilage Injury*

Cataracts

see *Eyes:Cataracts*

Catarrh

see *Congestion:Catarrh*

Cavities

see *Oral Conditions:Cavities*

Cells

Oils: ○Cellular Complex

Other Products: ○Cellular Vitality Complex, ○Food Nutrient Complex and ○Chewable Multivitamin for antioxidant support to help protect cells and DNA and for necessary nutrients, ○Energy & Stamina Complex for cellular energy support, and ○Essential Oil Omega Complex or Vegan Essential Oil Omega Complex or ○Omega-3 Fish Oil for omega-3 fatty acids necessary for cellular health

—DNA & Mutation:

DNA is the genetic material of the cell, DNA contains all of the codes that enables the cell to build the materials needed for proper cell structure and function. Mutation of DNA can lead to cell death or to cancer.

–Antimutagenic Oils:

Oils: ⊖⊘peppermint◌, ⊖⊘lavender◌, ⊖⊘rosemary, ⊖⊘basil, ⊖⊘fennel

○: Take 3–5 drops in an empty capsule, or with food and beverage. Take up to twice per day as needed.

⊖: Dilute oils as recommended, and apply oils on area of concern Add 1–2 drops to 1 Tbs. fractionated coconut oil for massage oil, and massage on location.

⊘: Diffuse into the air. Inhale oil applied to hands, tissue, or cotton wick.

◌: **Additional Research:**

Peppermint: Infusions from peppermint and valerian were shown to have antimutagenic properties on fruit flies exposed to the mutagen hydrogen peroxide (Romero-Jiménez et al., 2005).

Lavender: In tests for mutagenicity, both tea tree and lavender oils were found to not be mutagenic. In fact, lavender oil was found to have strong antimutagenic activity, reducing mutations of cells exposed to a known mutagen (Evandri et al., 2005).

Rosemary: An ethanol extract of rosemary demonstrated a protective effect against the oxidative damage to DNA in cells exposed to H2O2 and light-excited methylene blue (Slamenova et al., 2002).

Basil: Basil and its component, linalool, were found to reduce spontaneous mutagenesis in bacteria cells (Berić et al., 2008).

Fennel: Oral pretreatment with fennel essential oil was found to inhibit in vivo genotoxicity of cyclophosphamide (an important chemotherapy medication with adverse effects) in mouse bone marrow and sperm. These findings suggest that fennel could be used as an adjuvant in chemotherapeutic applications to help diminish adverse effects (Tripathi et al., 2013).

Cellulite

see also *Weight*

Cellulite refers to deposits of fat under the skin of the thighs, abdomen, and buttocks that cause the skin to appear dimpled.

Oils: ○⊖Metabolic Blend, ⊖grapefruit, ⊖rosemary, ⊖basil, ⊖orange, ⊖lemon, ⊖lime, ⊖cypress, ⊖juniper berry, ⊖lavender, ⊖oregano, ⊖fennel, ⊖geranium

Recipe 1: Add 5 drops grapefruit and 5 drops lemon to 1 gallon drinking water. Adjust to taste, and drink throughout the day.

○: Add 8 drops of Metabolic Blend to 16 oz. of water, and drink throughout the day between meals.

⊖: Dilute as recommended, and apply 1–2 drops on location. Add 1–2 drops to 1 Tbs. fractionated coconut oil, and massage on location.

Charley Horse

see *Muscles/Connective Tissue:Cramps/Charley Horses*

Chemicals

see *Detoxification*

Childbirth

see *Pregnancy/Motherhood*

Childhood Diseases

see also *Antiviral, Antibacterial*

—Chicken Pox: *see also* *Shingles*

Chicken pox is a common childhood illness caused by the virus varicella zoster. Symptoms of chicken pox include mild fever, weakness, and a rash. The rash appears as red spots that form into blisters that eventually burst and then crust over. Chicken pox can occur between 10 and 21 days after contact with the virus and is contagious up to five days before and five days after the rash appears. Chicken pox is highly contagious and can be contracted by anyone, but it is most common in children under the age of 15.

Oils: ⊖lavender, ⊖⊘melaleuca, ⊖Roman chamomile, ⊖eucalyptus, ⊘lemon, ⊘bergamot

Recipe 1: Add 10 drops lavender and 10 drops Roman chamomile to 4 oz. calamine lotion. Mix, and apply twice a day over body.

Recipe 2: Add 2 drops lavender to 1 cup bicarbonate of soda (baking soda). Dissolve in warm bathwater, and bathe to help relieve itching.

—Measles:

Measles is a viral infection of the respiratory system that causes coughing, runny nose, red eyes, fever, and a rash on the skin.

Oils: eucalyptus, melaleuca, lavender

—Mumps:

Mumps is a viral infection that causes fever, chills, headache, and painful swelling of the saliva glands.

Oils: melaleuca, lavender, lemon

—Rubella (German Measles):

Rubella, or German measles, is a viral infection that causes rash, fever, runny nose, and joint pain.

Oils: melaleuca, lavender

—Whooping Cough:

Whooping cough, or pertussis, is a bacterial infection that causes cold-like symptoms, followed by severe coughing fits.

Oils: oregano, basil, thyme, clary sage, cypress, lavender, Roman chamomile, grapefruit, eucalyptus, melaleuca, peppermint, rose

: Dilute as recommended, and apply on location or on chest, neck, back, or reflex points on the feet. Add 1–2 drops to 1 quart warm water, and use water for a sponge bath.

: Diffuse into the air. Diffuse other antiviral oils such as lemon as well. *See Antiviral.*

: **Additional Research:**

Eucalyptus: A plaque reduction assay showed that eucalyptus essential oil possessed a mild antiviral activity against mumps virus (Cermelli et al., 2008).

Children and Infants

When using essential oils on children and infants, it is always best to dilute the pure essential oil with a carrier oil. For older children, dilute 1–2 drops essential oil in 1/2–1 tsp. of carrier oil. For newborns and infants, dilute 1–2 drops in 2 Tbs. of carrier oil. If the oils are used in a bath, always use a bath gel base as a dispersing agent for the essential oils.

Keep the oils out of children's reach. If an oil is ever ingested, give the child an oil-soluble liquid such as milk, cream, or half & half. Then call your local poison control center, or seek emergency medical attention. A few drops of pure essential oil shouldn't be life-threatening, but it is best to take these precautions.

Several oils that are generally considered safe for children include cypress, frankincense, geranium, ginger, lavender, lemon☀, marjoram, melaleuca, orange☀, rosemary▽, sandalwood, thyme, and ylang ylang.

☀: These oils are photosensitive; always dilute, and do not use when skin will be exposed soon to direct sunlight.

▽: This oil should never be used undiluted on infants or children

—Colic:

Colic is any extended period of crying and fussiness that occurs frequently in an infant. While the exact cause is not known, it has been speculated that the cause may be from indigestion, the build-up of gas, lactose intolerance, or a lack of needed probiotic bacteria in the intestines.

Oils: fennel, marjoram, bergamot, ylang ylang, ginger, Roman chamomile, rosemary, melissa

Blend 1: Combine 2 Tbs. almond oil with 1 drop Roman chamomile, 1 drop lavender, and 1 drop geranium. Mix, and apply to stomach and back.

: Dilute 1–2 drops of oil in 2 Tbs. fractionated coconut oil, and massage a small amount of this blend gently on stomach and back.

—Common Cold: *see Antiviral*

A cold is a viral infection that causes a stuffy or runny nose, congestion, cough, and sneezing.

Oils: thyme, lemon, cedarwood, sandalwood, rosemary, rose

: Dilute 1–2 drops of oil in 2 Tbs. fractionated coconut oil, and massage a little on neck and chest.

: Diffuse into the air.

—Constipation:

Constipation is when feces becomes too hard and dry to expel easily from the body.

Oils: ✋rosemary, ✋ginger, ✋orange

✋: Dilute 1–2 drops of oil in 2 Tbs. fractionated coconut oil, and massage on stomach and feet.

—Cradle Cap:

Cradle cap is a scaling of the skin on the head that commonly occurs in young infants. The scaling is yellowish in color and often disappears by the time the infant is a few months old.

Recipe 1: Combine 2 Tbs. almond oil with 1 drop lemon and 1 drop geranium. Apply a small amount of this blend on the head.

—Croup:

Croup is a viral respiratory infection that causes inflammation of the area around the larynx (voice box) and a distinctive-sounding cough. Often, taking an infant or child outside to breath cool night air can help open the restricted airways, as can humidity.

Oils: ⊘✋marjoram, ⊘✋thyme, ⊘✋sandalwood

⊘: Diffuse into the air.

✋: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil, and massage on chest and neck.

—Crying:

Oils: ⊘✋ylang ylang, ⊘✋lavender, ⊘✋Roman chamomile, ⊘✋geranium, ⊘✋cypress, ⊘✋frankincense

⊘: Diffuse into the air.

✋: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil. Massage.

—Diaper Rash:

Diaper rash is a red rash of the skin in the diaper area caused by prolonged skin exposure to the moisture and different pH of urine and feces. Often, more frequent bathing of the area and diaper changes will help alleviate the rash.

Oils: ✋lavender

Blend 2: Combine 1 drop Roman chamomile and 1 drop lavender with 1 tsp. fractionated coconut oil, and apply on location.

✋: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil, and apply a small amount of this mixture on location.

—Digestion (sluggish):

Oils: ✋lemon, ✋orange

✋: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil, and massage a small amount on feet and stomach.

—Dry Skin:

Oils: ✋sandalwood

✋: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil, and apply a small amount on location.

—Earache:

Oils: ✋melaleuca, ✋Roman chamomile, ✋lavender, ✋thyme

Blend 3: Combine 2 Tbs. fractionated coconut oil with 2 drops lavender, 1 drop Roman chamomile, and 1 drop melaleuca. Put a drop on a cotton ball or cotton swab, and apply in ear, behind the ear, and on reflex points on the feet.

✋: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil, and apply a small amount behind the ear. Place a drop on a cotton ball, and place in the ear.

—Fever:

Oils: ✋lavender, ⊘peppermint

✋: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil, and massage a small amount on the neck, feet, behind ears, and on back.

⊘: Diffuse into the air.

—Flu:

Flu, or influenza, is a viral infection that affects the respiratory system. Symptoms may include coughing, sneezing, fever, runny nose, congestion, muscle aches, nausea, and vomiting.

Oils: ✋⊘cypress, ✋⊘lemon

✋: Dilute 1 drop oil in an unscented bath gel, and use for a bath.

⊘: Diffuse into the air.

—Hyperactive: *see Calming, ADD/ADHD*

—Jaundice:

Jaundice is a condition where the liver cannot clear the pigment bilirubin quickly enough from the blood, causing the blood to deposit the bilirubin into the skin and whites of the eyes, turning them a yellowish color.

Oils: geranium, lemon, rosemary

: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil, and massage a small amount on the liver area and on the reflex points on the feet.

—Premature:

Since premature babies have very thin and sensitive skin, it is best to avoid the use of essential oils.

—Rashes:

Oils: lavender, Roman chamomile, sandalwood

: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil, and apply a small amount on location.

—Teeth Grinding:

Oils: lavender, Calming Blend

: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil, and massage a small amount on the feet.

: Diffuse into the air.

—Tonsillitis:

Tonsillitis is inflammation of the tonsils, two lymph-filled tissues located at the back of the mouth that help provide immune support. These may become inflamed due to a bacterial or viral infection.

Oils: melaleuca, lemon, Roman chamomile, lavender, ginger

: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil, and apply a small amount to tonsils and lymph nodes.

—Thrush: *see also* Antifungal

Thrush is an oral fungal infection caused by *Candida albicans*. It causes painful white-colored areas to appear in the mouth.

Oils: melaleuca, lavender, thyme, lemon, geranium

: Dilute 1–2 drops in 2 Tbs. fractionated coconut oil, and apply a small amount on location.

: **Additional Research:**

Fennel: Fennel seed oil was found to be superior to a placebo in decreasing intensity of infantile colic in a randomized placebo-controlled trial including 121 infants. The oil was administered four times a day and consumption was limited to a maximum of 12 mg/kg/day of fennel seed oil (Alexandrovich et al., 2003).

Fennel and melissa: Colic improved in breastfed infants within 1 week of administering a phytotherapeutic agent containing *Matricariae recutita*, *Foeniculum vulgare*, and *Melissa officinalis* when compared to a placebo containing vitamins (Savino et al., 2005).

Rosemary: The use of rosemary, lemon, and peppermint oils in massage demonstrated an ability to reduce constipation and increase bowel movements in elderly subjects, compared to massage without the oils (Kim et al., 2005).

Melaleuca: Tea tree oil was found to inhibit 301 different types of yeasts isolated from the mouths of cancer patients suffering from advanced cancer, including 41 strains that are known to be resistant to antifungal drugs (Bagg et al., 2006).

Melaleuca: Eleven types of Candida were found to be highly inhibited by tea tree oil (Banes-Marshall et al., 2001).

Lavender: Lavender oil demonstrated both fungistatic (stopped growth) and fungicidal (killed) activity against Candida albicans (D'Auria et al., 2005).

Thyme: Thyme oil was found to inhibit Candida species by causing lesions in the cell membrane as well as inhibiting germ tube (an outgrowth that develops when the fungi is preparing to replicate) formation (Pina-Vaz et al., 2004).

Chills

see Fever, Warming Oils

Cholera

Cholera is a potentially severe bacterial infection of the intestines by the *Vibrio cholerae* bacteria. This infection can cause severe diarrhea, leading to dehydration that can cause low blood pressure, shock, or death. Rehydration with an oral rehydration solution is the most effective way to prevent dehydration. If no commercially-prepared oral rehydration solution is available, a solution made from 1 tsp. salt, 8 tsp. sugar, and 1 liter clean water (with some mashed fresh banana, if available, to add potassium) can work in an emergency.

Oils: rosemary, clove

: Dilute as recommended, and apply to stomach and on reflex points on the feet.

Cholesterol

Cholesterol is an important lipid that comprises part of the cell membrane and myelin sheath and that plays a role in nerve cell function. It is created by the body and can be found in many foods we eat. An imbalance of certain types of cholesterol in the blood has been theorized to play a role in the formation of plaques in the arteries (atherosclerosis).

Oils: lemongrass, clary sage, helichrysum, lavender, juniper berry

: Dilute as recommended, and apply to liver area and reflex points on the feet.

: Place 1–2 drops in a capsule, and swallow.

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

: Diffuse into the air.

: **Additional Research:**

Lemongrass: Supplementation with lemongrass capsules was found to reduce cholesterol in some subjects (Elson et al., 1989).

Lavender: Inhalation of lavender and monarda oils was found to reduce cholesterol content and atherosclerotic plaques in the aorta (Nikolaevski&#x0; et al., 1990).

Juniper Berry: Oral administration of juniper berry essential oil to rats fed a high cholesterol diet resulted in increased antioxidant enzyme activities in the rat heart tissue (Gumral et al., 2013).

Camphene (found in coriander, frankincense, ginger, lavender, lime, peppermint, roman chamomile, rose, rosemary, spearmint, white fir): Injection of camphene, a constituent found in many essential oils, was found to reduce plasma cholesterol and triglycerides in naïve and hyperlipidemic rats. Camphene's mechanism of action was different than that of statins (drugs used to lower cholesterol levels) (Vallianou et al., 2011).

Chronic Fatigue

Chronic fatigue syndrome refers to a set of debilitating symptoms that may include prolonged periods of fatigue that are not alleviated by rest, difficulty concentrating, muscle and joint pain, headaches, and sore throats that cannot be explained by any other known medical condition. While the exact cause of chronic fatigue syndrome is not known, some have theorized that it is caused by a virus (such as the Epstein-Barr virus) left in the body after an illness.

Oils: Protective Blend, peppermint, basil, lemongrass, Digestive Blend, rosemary, lavender

Other Products: Energy & Stamina Complex, Cellular Vitality Complex or Chewable Multivitamin to help support healthy cellular energy levels. Essential Oil Omega Complex or Vegan Essential Oil Omega Complex or Omega-3 Fish Oil, and Food Nutrient Complex to help supply necessary nutrients to support cell and immune function.

: Dilute as recommended, and apply 1–2 drops to sore muscles or joints, to the back, or to the feet. Add 1–2 drops to warm bathwater for a bath.

: Take capsules as directed on package. Add 1–2 drops of oil to an empty capsule; swallow.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Cigarettes

see *Addictions:Smoking*

Circulatory System

see *Cardiovascular System*

Cirrhosis

see *Liver:Cirrhosis*

Cleansing

see also *Housecleaning*

Oils: Cleansing Blend, Protective Blend, melaleuca

Other Products: Protective Hand Wash to cleanse hands and protect against harmful microorganisms.

—Cuts:

Oils: lavender, melaleuca

—Master Cleanse or Lemonade Diet:

Combine 2 Tbs. fresh lemon or lime juice (approximately 1/2 lemon), 2 Tbs. grade B maple syrup, and 1/10 tsp cayenne pepper (or to taste) with 10 oz. distilled water. In case of diabetes, use black strap molasses instead of the maple syrup. Drink 6–12 glasses of this mixture daily, with an herbal laxative tea taken first thing in the morning and just before retiring at night. Refer to the booklet *The Master Cleanser* for more specifics and for suggestions of how to come off of this cleanse.

: Dilute as recommended, and apply on location. Dilute 1–3 drops in 1 Tbs. fractionated coconut oil, and use as massage oil. Use hand wash as directed on packaging.

: Diffuse into the air.

Colds

see also *Antiviral, Coughs, Congestion*

A cold is a viral infection that causes a stuffy or runny nose, congestion, cough, sore throat, or sneezing.

Oils: thyme, lemon, Protective Blend, melaleuca, sandalwood, eucalyptus, rosemary, lime, peppermint (for nasal congestion), Respiratory Blend (for respiratory congestion), ginger, basil, lavender, orange, oregano

Other Products: Respiratory Lozenge Drops, Protective Softgels. Food Nutrient Complex for nutrients essential to support cellular and immune system health.

Recipe 1: When you first notice a sore throat, apply a tiny amount of melaleuca to the tip of the tongue, and then swallow. Repeat this a few times every 5–10 minutes. Then massage a couple of drops on the back of the neck.

: Dilute as recommended, and apply 1–2 drops to throat, temples, forehead, back of neck, sinus area, below the nose, chest, or reflex points on the feet.

: Diffuse into the air. Place 1–2 drops in a bowl of hot water, and inhale the vapors. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Take capsules as directed on package. Place 1–2 drops of oil under the tongue or place 1–2 drops of oil in an empty capsule, and swallow.

Cold Sores

see also Antiviral, Herpes Simplex

Cold sores are blisters or sores in the mouth area caused by an infection of the herpes simplex virus.

Oils: melaleuca, melissa, peppermint, lemon, Protective Blend, geranium, lavender, bergamot

: Dilute as recommended, and apply 1–2 drops on location.

: **Additional Research:**

Melaleuca: Tea tree and eucalyptus oil demonstrated an ability to inhibit the Herpes simplex virus (Schnitzler et al., 2001).

Melissa: Melissa oil demonstrated inhibition of herpes simplex type 1 and type 2 viruses (Schnitzler et al., 2008).

Peppermint: Peppermint oil demonstrated a direct virucidal activity against herpes type 1 and type 2 viruses (Schuhmacher et al., 2003).

Colic

see Children and Infants:Colic

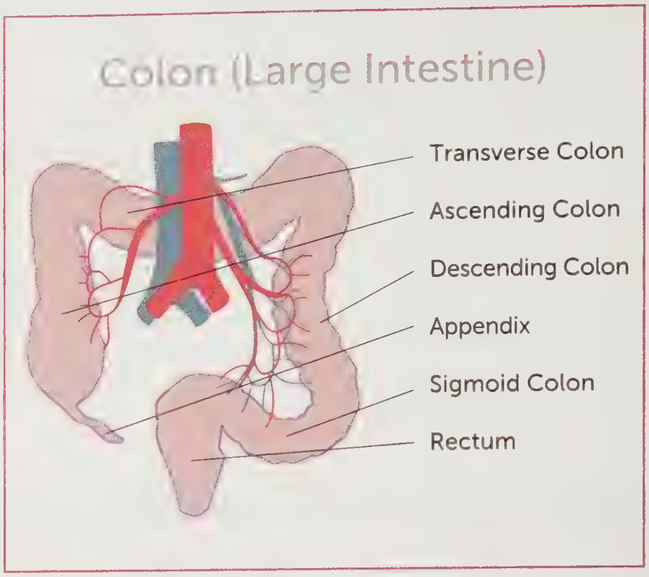
Colitis

see Colon:Colitis

Colon

see also Cancer:Colon, Digestive System

The colon, or large intestine, is the last part of the digestive system. Its function is to extract water and vitamins created by friendly bacterial flora from the material moving through the digestive system.


Colon (Large Intestine)

Oils: Digestive Blend, peppermint

Other Products: Probiotic Defense Formula to help restore friendly flora to the intestinal wall. GI Cleansing Formula to help the digestive system eliminate pathogens. Digestive Softgels to help support healthy digestion. Detoxification Complex to help support healthy colon functioning.

—Cancer: *see* Cancer:Colon

—Colitis:

Colitis is inflammation of the large intestine or colon. The exact cause is not known but may involve an auto-immune response. Symptoms can include abdominal pain, tenderness, frequent need to expel stools, diarrhea, and possibly bloody stools and fever in the case of ulcerative colitis.

Oils: Digestive Blend, helichrysum, peppermint, thyme, oregano, rosemary, clove

Other Products: Digestive Softgels to help support healthy digestion.

—Diverticulitis:

Diverticulitis is the inflammation of a diverticula (a small balloon-like sac that sometimes forms along the wall of the large intestine, especially in older individuals), typically due to infection. It causes pain in the abdomen and tenderness on the lower-left-hand part of the stomach.

Oils: cinnamon, lavender

—Polyps: *see also* Cancer:Colon

Polyps are tumors that arise from the bowel surface and protrude into the inside of the colon. Most polyps eventually transform into malignant cancer tumors.

Oils: ○⊖peppermint

⊖: Dilute as recommended, and apply 1–2 drops on lower abdomen or on reflex points on the feet. Use 1–2 drops in warm bathwater for a bath.

○: Take capsule as directed on package. Place 1–2 drops in an empty capsule; swallow.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

📖: **Additional Research:**

Peppermint: L-menthol was found to inhibit production of inflammation mediators in human monocytes (a type of white blood cell involved in the immune response) (Juergens et al., 1998).

Rosemary: Rosemary essential oil was found to be effective in reducing colon tissue lesions and colitis indices when administered orally or intraperitoneally to rats induced with colitis, suggesting that rosemary has anti-colitic activity (Minaiyan et al., 2011).

Thyme and oregano: Oral administration of thyme and oregano oil at a dose of 0.2% thyme and 0.1% oregano was found to be effective in decreasing the mortality rate, accelerating body weight gain recovery, and significantly reducing the macroscopic damage of colonic tissue of mice with induced colitis (Bukovska et al., 2007).

Coma

Oils: ⊖frankincense, ⊖Grounding Blend, ⊖sandalwood, ⊖cypress, ⊖peppermint

⊖: Dilute as recommended, and massage 1–2 drops on the brain stem area, mastoids (behind ears), temples, and bottoms of feet.

Complexion

see Skin

Concentration (Poor)

Oils: ⊖⊘Focus Blend, ⊘lavender📖, ⊘lemon📖, ⊘peppermint, ⊘orange, ⊘cedarwood, ⊘cypress, ⊘juniper berry, ⊘eucalyptus, ⊘rosemary, ⊘sandalwood, ⊘ylang ylang

Other Products: ○Essential Oil Omega Complex or ○Vegan Essential Oil Omega Complex or ○Omega-3 Fish Oil, which contains omega-3 fatty acids necessary for proper brain cell function.

⊖: Apply on back of neck and bottoms of feet.

⊘: Diffuse into the air. Apply, and inhale from hands, tissue, or cotton wick.

○: Take capsules as directed on package.

📖: **Additional Research:**

Lavender: Subjects who smelled a cleansing gel with lavender aroma were more relaxed and able to complete math computations faster (Field et al., 2005).

Lavender: Subjects exposed to 3 minutes of lavender aroma were more relaxed and able to perform math computations faster and more accurately. Subjects exposed to rosemary aroma were more alert and completed math computations faster (but not more accurately) (Diego et al., 1998).

Lemon: Daily inhalation of lemon essential oil aroma for five minutes was found to have a positive effect on learning in mice (Ogeturk et al., 2010).

Concussion

see Brain:Concussion

Confusion

Oils: ⊖⊘Focus Blend, ⊘frankincense, ⊘sandalwood, ⊘Grounding Blend, ⊘rosemary, ⊘peppermint, ⊘juniper berry, ⊘marjoram, ⊘cedarwood, ⊘basil, ⊘ylang ylang, ⊘white fir, ⊘thyme, ⊘geranium, ⊘rose, ⊘ginger

⊖: Apply on back of neck and bottoms of feet.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Congestion

Congestion is the blockage of the nasal passages, sinuses, or upper respiratory tract due to inflamed tissues and blood vessels or to an increased output of mucus. Congestion can make it difficult to breathe freely and can sometimes cause pain.

Oils: ⊖⊘eucalyptus📖, ⊖⊘peppermint, ⊖⊘Respiratory Blend, ⊘cinnamon, ⊖⊘juniper berry, ⊖⊘cypress, ⊖⊘melaleuca, ⊘⊖cedarwood, ⊘⊖cardamom, ⊖⊘ginger, ⊖⊘rosemary, ⊖⊘fennel, ⊖⊘citrus oils, ⊖⊘patchouli

—Catarrh:

Catarrh refers to the secretion of mucus and white blood cells from the mucus membranes in the sinuses and nasal passages in response to an infection.

Oils: ⊖⊘cypress, ⊖⊘helichrysum, ⊖⊘Respiratory Blend, ⊖⊘Protective Blend, ⊖⊘eucalyptus ⊖⊘frankincense, ⊖⊘myrrh, ⊖⊘rosemary, ⊖⊘ginger

—Expectorant:

An expectorant is an agent that helps dissolve thick mucus in the trachea, bronchi, or lungs for easier elimination.

Oils: eucalyptus, marjoram, frankincense, helichrysum, cardamom

—Mucus:

Mucus is the substance produced by epithelial cells to coat the mucous membranes in the respiratory tract, digestive tract, and reproductive system. Mucus plays an important role in helping to protect these surfaces from different substances or from microorganisms they come in contact with. When one of these surfaces becomes infected or inflamed, an excess of mucus is often produced. An excess of mucus can lead to difficulty breathing in the sinuses, nasal passages, or respiratory tract. For oils to help combat an excess of mucus, see the entries above.

Oils: Digestive Blend (with ginger - helps digest old mucus)

: Dilute as recommended, and rub 1–2 drops on the chest, neck, back, and feet. Dilute 1–2 drops in 1 Tbs. fractionated coconut oil, and massage on chest, neck, back, and feet.

: Diffuse into the air. Place 1–2 drops in a bowl of hot water, and inhale the vapor. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Add 1–2 drops of each oil to an empty capsule; swallow.

: **Additional Research:**

Eucalyptus: Eucalyptus oil was found to have an anti-inflammatory and mucin-inhibitory effect in rats with lipopolysaccharide-induced bronchitis (Lu et al., 2004).

Conjunctivitis

see Eyes:Pink Eye

Connective Tissue

see Bones:Cartilage, Muscles/Connective Tissue

Constipation

see Digestive System:Constipation

Convulsions

see Seizure:Convulsions

Cooling Oils

Typically, oils that are high in aldehydes and esters can produce a cooling effect when applied topically or diffused.

Oils: peppermint, eucalyptus, melaleuca, lavender, Roman chamomile, citrus oils

: Dilute as recommended, and apply 1–2 drops on location. Add 1–2 drops to bathwater, and bathe. Add 1–2 drops to basin of cool water, and sponge over skin.

: Diffuse into the air.

Corns

see Foot:Corns

Coughs

A cough is a sudden explosive release of air from the lungs to help clear an excess of mucus, an irritant, or other materials from the airway. Coughing can be caused by foreign material entering the airway or by an infection, asthma, or other medical problem. Proper hydration or steam inhalation can help loosen thick secretions, making them easier to eliminate.

Oils: Respiratory Blend, melaleuca, eucalyptus, frankincense, Protective Blend, cardamom, peppermint, white fir, juniper berry, cedarwood, sandalwood, thyme, myrrh, ginger

Other Products: Respiratory Lozenge Drops, Protective Softgels. Protective Throat Drops to soothe irritated and sore throats.

—Allergy:

Oils: Cleansing Blend

—Severe:

Oils: frankincense

: Diffuse into the air. Use throat drops as directed on package.

: Dilute as recommended, and apply 1–2 drops on the throat and chest.

: Take supplements as directed on packaging.

Cradle Cap

see Children and Infants:Cradle Cap

Cramps

see *Digestive System:Cramps, Female Specific Conditions:Menstruation, Muscles/Connective Tissue:Cramps/Charley Horses*

Crohn's Disease

Crohn's disease is a chronic inflammation of part of the intestinal wall, thought to be caused by an over-active immune response. It can cause abdominal pain, diarrhea, nausea, and loss of appetite.

Oils: 💧✋peppermint, 💧✋Digestive Blend, ✋basil

💧: Add 1–2 drops of oil to an empty capsule; swallow.

✋: Dilute as recommended and apply on stomach and feet.

📖: **Additional Research:**

Peppermint: A combination of peppermint and caraway oil was found to reduce visceral hyperalgesia (pain hypersensitivity in the gastrointestinal tract) after induced inflammation in rats (Adam et al., 2006).

Cuts

see also *Wounds, Antibacterial, Blood:Bleeding*

Oils: ✋helichrysum, ✋lavender, ✋melaleuca, ✋basil, ✋Protective Blend, ✋Roman chamomile ✋cypress

✋: Dilute as recommended, and apply 1–2 drops on location.

📖: **Additional Research:**

Basil: Basil (Ocimum gratissimum) oil was found to facilitate the healing process of wounds in rabbits to a greater extent than two antibacterial preparations, Cicatrin and Cetavlex (Orafidiya et al., 2003).

Cystitis

see *Bladder:Cystitis/Infection*

Dandruff

see *Hair:Dandruff*

Decongestant

see *Congestion*

Degenerative Disease

A degenerative disease is a disease where the affected tissues or organs are damaged due to internal mechanisms, and not due to infection. Quite a few different diseases can be categorized as degenerative diseases, including Alzheimer's disease, cancer, Parkinson's disease, atherosclerosis, diabetes, osteoporosis, rheumatoid arthritis, and many others. Support the cells and tissues through proper nutrition, reducing stress, exercising regularly, and eliminating toxins. See specific conditions in this guide for oils and other products that can support the body for each condition.

Delivery

see *Pregnancy/Motherhood:Delivery*

Dental Infection

see *Oral Conditions*

Deodorant

Oils: ✋Cleansing Blend, ✋melaleuca, ✋lavender, ✋geranium, ✋eucalyptus, ✋cedarwood, ✋cypress, ✋Joyful Blend, ✋Calming Blend, ✋Respiratory Blend, ✋Blend for Women

✋: Dilute as recommended, and apply 1–2 drops on the skin. Dilute 2–3 drops in 1 Tbs. fractionated coconut oil, and apply under the arms. Add 2–3 drops to 4 oz. unscented talcum powder and 2 oz. baking soda, and apply under the arms, on the feet, or on other areas of the body.

Deodorizing

Oils: 💨Cleansing Blend, 💨peppermint, 💨cedarwood, 💨clary sage

💨: Diffuse into the air. Dissolve 8–10 drops in 1 tsp. perfumer's or pure grain alcohol (such as vodka), and combine with distilled water in a 1 oz. spray bottle. Spray into the air or on affected surface.

Depression

Depression is a disorder marked by excessive sadness, energy loss, feelings of worthlessness, irritableness, sudden weight loss or gain, trouble sleeping, and loss of interest in activities normally enjoyed. These symptoms can continue for weeks or months if not treated and can destroy an individual's quality of life.

Oils: 💨✋💧lemon, 💨✋frankincense, ✋💨Focus Blend, 💨✋💧lavender, 💨✋bergamot, 💨✋Joyful Blend, 💨✋Grounding Blend, 💨✋Invigorating Blend, 💨✋melissa, 💨✋clary sage, ✋💨rosemary, 💨✋ylang ylang, 💨✋grapefruit, 💨✋Calming Blend, 💨✋💧lime, 💨✋peppermint.

Primary Recommendations • Secondary Recommendations • Other Recommendations / 💨=Aromatic, ✋=Topical, 💧=Internal ginger, juniper berry, basil, sandalwood, patchouli

—Postpartum Depression: *see Pregnancy/ Motherhood:Postpartum Depression*

—Sedatives:

Oils: lavender, ylang ylang, melissa, Roman chamomile, sandalwood, cedarwood, rose, clary sage, cypress, juniper berry, frankincense, bergamot, marjoram

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Dilute as recommended, and apply 1–2 drops to temple or forehead. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and use as massage oil. Add 1–3 drops to warm bathwater, and bathe.

: Add 1–2 drops to 8 oz. distilled water or 4 oz. rice or almond milk, and drink. Add 1–2 drops to empty capsule, and swallow.

: **Additional Research:**

Lemon: Lemon oil vapor was found to have strong antistress and antidepressant effects on mice subjected to several common stress tests (Komiya et al., 2006).

Lemon: Lemon oil and its component, citral, were found to decrease depressed behavior in a similar manner to antidepressant drugs in rats involved in several stress tests (Komori et al., 1995).

Lemon: In 12 patients suffering from depression, it was found that inhaling citrus aromas reduced the needed doses of antidepressants, normalized neuroendocrine hormone levels, and normalized immune function (Komori et al., 1995).

Frankincense: Incensole acetate was found to open TRPV receptors in mice brains, indicating a possible channel for emotional regulation (Moussaieff et al., 2008).

Lavender: In patients suffering from arthritis, it was found that a blend of lavender, marjoram, eucalyptus, rosemary, and peppermint blended with carrier oils was found to reduce perceived pain and depression compared to control (Kim et al., 2005).

Lavender: Female students suffering from insomnia were found to sleep better and to have a lower level of depression during weeks they used a lavender fragrance when compared to weeks they did not use a lavender fragrance (Lee et al., 2006).

Lavender: Swiss mice fed lavender oil diluted in olive oil were found to be more sedate in several common tests (Guillemain et al., 1989).

Lavender: Exposure to inhaled lavender oil and to its constituents, linalool and linalyl acetate, was found to decrease normal movement in mice as well as to return mice to normal movement rates after caffeine-induced hyperactivity (Buchbauer et al., 1991).

Lavender: Lavandula angustifolia essential oil demonstrated ability to inhibit GABA-A receptor channels of rat brain cells (Huang et al., 2008).

Lavender: Inhaling lavender oil was found to lower agitation in older adults suffering from dementia (Lin et al., 2007).

Bergamot: In 12 patients suffering from depression, it was found that inhaling citrus aromas reduced the needed doses of antidepressants, normalized neuroendocrine hormone levels, and normalized immune function (Komori et al., 1995).

Invigorating Blend: In 12 patients suffering from depression, it was found that inhaling citrus aromas reduced the needed doses of antidepressants, normalized neuroendocrine hormone levels, and normalized immune function (Komori et al., 1995).

Clary sage: Clary sage essential oil displayed antidepressant-like effects via the dopaminergic pathway in rats submitted to the forced swim test (a common stress test) (Seol et al., 2010).

Rosemary: Many fractions of *Rosmarinus officinalis*, including its essential oil, were found to have antidepressant-like effects on mice submitted to two stress tests after oral administration of the rosemary plant fractions (Machado et al., 2013).

Ylang ylang: Transdermal absorption of ylang ylang essential oil altered physiological stress responses, like blood pressure and skin temperature, and subjects reported being more calm and relaxed than the control group (Hongratanaworakit et al., 2006).

Grapefruit: In 12 patients suffering from depression, it was found that inhaling citrus aromas reduced the needed doses of antidepressants, normalized neuroendocrine hormone levels, and normalized immune function (Komori et al., 1995).

Melissa: Melissa (lemon balm) oil applied topically in a lotion was found to reduce agitation and improve quality of life factors in patients suffering severe dementia compared to those receiving a placebo lotion (Ballard et al., 2002).

Dermatitis

see Skin:Dermatitis/Eczema

Despair

see Depression

Detoxification

Detoxification is the act of clearing toxins out of the body. These toxins may be addictive drugs, alcohol, or any other harmful substance.

Oils: helichrysum, rosemary, juniper berry, coriander

: Dilute as recommended, and apply to liver area, intestines, and reflex points on the feet.

: **Additional Research:**

Rosemary: Rosemary extracts induced CYP (cytochrome 450) activity in liver cells, suggesting a possibility of increased ability to remove toxins (Debersac et al., 2001).

Coriander: Coriander extract was found to have a protective role against lead toxicity in rat brain (Velaga et al., 2014).

Diabetes

Diabetes is a disease characterized by the body's inability to properly produce or use the hormone insulin. Insulin, produced in the pancreas, helps regulate the level of sugars in the blood, as well as the conversion of starches and sugar into the energy necessary for life. Common diabetes symptoms include a frequent need to drink and urinate, blurred vision, mental fatigue, and possibly weight loss (depending on the type). Over time, diabetes can lead to additional complications, such as strokes, heart disease, kidney failure, and even the necessity of removing a limb.

Oils: cinnamon, rosemary, geranium, basil, ylang ylang, eucalyptus, Protective Blend, cypress, juniper berry,

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

dill, cassia, ginger, fennel, lavender

Blend 1: Combine 8 drops clove, 8 drops cinnamon, 15 drops rosemary, and 10 drops thyme with 2 oz. fractionated coconut oil. Put on feet and over pancreas.

Blend 2: Combine 5 drops cinnamon and 5 drops cypress. Rub on feet and pancreas.

Other Products: Protective Softgels

—Pancreas Support:

Oils: cinnamon, geranium

—Sores (Diabetic):

Those suffering from diabetes have to be especially careful about sores of any kind, especially those on the feet and hands. Diabetes decreases blood flow, so wounds heal much slower. Many who suffer from diabetes experience decreased sensation in their hands and feet, making it more difficult to even notice an injury right away. Even a small sore left untreated can turn into an ulcer, ultimately making amputation necessary.

Oils: lavender, Grounding Blend

💧: Place 1–2 drops of oil under the tongue or place 1–2 drops in empty capsule and swallow. Take supplements as directed on packaging.

✋: Dilute as recommended, and apply on back, chest, feet, and over pancreas.

🌀: Diffuse into the air.

○: **Additional Research:**

Cinnamon: Cinnamon bark extract supplementation for three months was found to significantly improve blood glucose control in Chinese patients with type 2 diabetes taking gliclazide (a prescribed antidiabetic medication) (Lu, T. et al., 2012).

Cinnamon: Cinnamaldehyde (the major constituent of cinnamon oil) produced protective action against alloxan-induced diabetic nephropathy in rats (Mishra et al., 2010).

Cinnamon: Cinnamaldehyde (found in cinnamon oil) was found to significantly reduce blood glucose levels in diabetic wistar rats (Subash et al., 2007).

Cinnamon: Oral administration of cinnamon oil was found to significantly reduce blood glucose levels in diabetic KK-Ay mice (Ping et al., 2010).

Cinnamon: Cinnamon polyphenols were found to restore pancreatic function and exert hypoglycemic and hypolipidemic effects in a diabetic mouse model (Li, R. et al., 2013).

Rosemary: Oral rosemary extract was found to decrease blood glucose levels, while increasing insulin levels in alloxan-diabetic rabbits (Bakirel et al., 2008).

Basil: Results from a clinical trial showed that basil leaf extract decreased fasting and postprandial blood glucose in diabetes mellitus patients, suggesting that basil could be used as a dietary therapy in mild to moderate cases of type 2 diabetes mellitus (Agrawal et al., 1996) .

Melissa: Oral supplementation of melissa essential oil significantly reduced plasma glucose levels compared with the control group, and increased glucose tolerance in a type 2 diabetic mouse model (Chung et al., 2010).

Dill: Dill seed extract suppressed high-fat diet-induced hyperlipidemia through hepatic PPAR-α activation in diabetic obese mice (Takahashi et al., 2013).

Helichrysum and Grapefruit: Helichrysum and grapefruit extracts were found to improve postprandial glycemic control in a dietary model of insulin resistance in rats (da la Garza et al., 2013).

Cassia: In vitro data suggest that the constituents of cassia may be appropriate for the treatment of diabetic complications (like cataract and retinopathy) because of the constituents' ability to inhibit aldose reductase and thus prevent the conversion of glucose to corbitol (Lee, 2002).

D-Limonene (found in lime, lemon, bergamot, dill, grapefruit, lavender, lemongrass, Roman chamomile, tangerine, and wild orange essential oils): In a recent study oral intake of D-limonene ameliorated insulin resistance in mice fed a high-fat diet (Jing et al., 2013).

Diaper Rash

see *Children and Infants:Diaper Rash*

Diarrhea

see *Digestive System:Diarrhea*

Digestive System

The human digestive system is the series of organs and glands that process food. The digestive system breaks down food, absorbs nutrients for the body to use as fuel, and excretes as bowel movements the part that cannot be broken down.

Oils: peppermint, ginger, lemongrass (purifies), Digestive Blend, fennel, wintergreen, marjoram (stimulates), oregano, rosemary, clary sage, cardamom, grapefruit, basil, lemon, cinnamon, clove, juniper berry, orange, bergamot

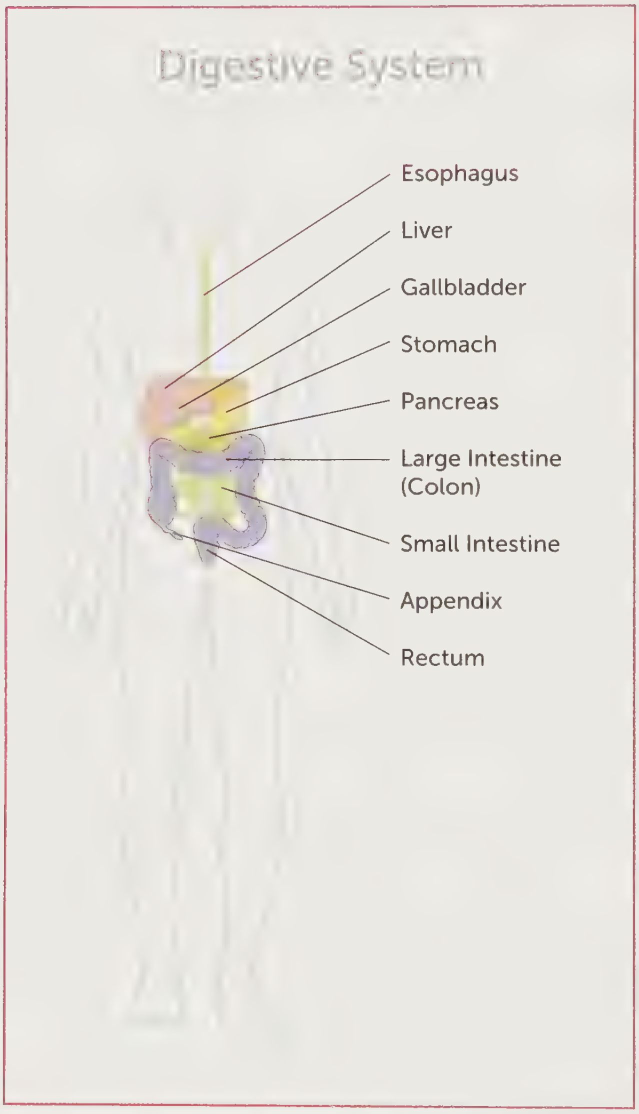
Regimen 1: Use GI Cleansing Formula for 10 days to help support the digestive system in eliminating pathogenic microorganisms, followed by Probiotic Defense Formula for 5 days to help rebuild friendly flora to aid digestion and prevent pathogenic bacteria.

Other Products: Digestive Softgels to help support healthy digestion. Digestive Enzyme Complex for healthy digestion, enzymatic function, and cellular metabolism. Cellular Vitality Complex, Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Omega-3 Fish Oil, Food Nutrient Complex, Chewable Multivitamin to provide essential nutrients, vitamins, and minerals for digestive system cellular support.

💧: Take capsules as directed on package. Add 1–2 drops of oil to 16 oz. of water, and drink. Add oils as flavoring to food. Place 1–2 drops of oil in an empty capsule, and swallow.

✋: Dilute oil as recommended, and apply 1–2 drops on stomach or reflex points on feet. Dilute 1–2 drops in 1 Tbs. fractionated coconut oil, and massage over abdomen and lower back. Apply as a warm compress over affected area.

🌀: Diffuse into the air. *See Negative Ions* for oils that produce negative ions when diffused to help stimulate the digestive system. Inhale oil directly or applied to hands, tissue, or cotton wick.



—Bloating:

Bloating is an abnormal swelling, increase in diameter, or feeling of fullness and tightness in the abdominal area as gas and liquid are trapped inside. Common causes of bloating can include overeating, menstruation, constipation, food allergies, and irritable bowel syndrome.

Oils: ✋🌀Digestive Blend

Other Products: 💧Digestive Softgels

✋: Dilute as recommended, and apply to stomach and to reflex points on the feet.

🌀: Diffuse into the air.

—Constipation:

Constipation is a condition characterized by infrequent or difficult bowel movements. A person is considered constipated if he or she has fewer than three bowel movements a week or if the stools are hard and difficult to expel. Common causes of constipation include a lack of fiber, dehydration, ignoring the urge to have a bowel movement, depression, medications, large dairy intake, stress, and abuse of laxatives.

Oils: ✋rosemary, ✋lemon, ✋peppermint, ✋marjoram, ✋Digestive Blend, ✋ginger, ✋fennel, ✋orange, ✋rose, ✋juniper berry, ✋sandalwood

Other Products: 💧Digestive Softgels to help support healthy digestion.

✋: Dilute as recommended, and apply oils on abdomen. Add 1–2 drops to 1 Tbs. fractionated coconut oil, and massage onto abdomen.

💧: Take capsules as directed.

—Cramps (Abdominal):

Cramps are sudden, involuntary muscle contractions that often cause severe pain. Abdominal cramps are commonly caused by stress, menstruation, mild food poisoning, and *Irritable Bowel Syndrome (below)*.

Oils: 💧✋Digestive Blend, 💧✋basil, ✋clary sage

Other Products: 💧Digestive Softgels to help support healthy digestion.

Recipe 1: Flavor water with 5 drops Digestive Blend, and drink for stomach pains and cramps.

💧: Place 3 drops Digestive Blend and 3 drops basil in an empty capsule; swallow. Take capsules as directed.

✋: Dilute as recommended, and massage oil onto abdomen over area of pain.

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

—Diarrhea:

Diarrhea is an abnormal increase in the frequency of bowel movements, marked by loose, watery stools. Diarrhea is defined as more than three bowel movements a day. Cases of Diarrhea that last more than two days can become a serious problem and cause dehydration. Rehydration with an oral rehydration solution is the most effective way to prevent dehydration. If no commercially-prepared oral rehydration solution is available, a solution made from 1 tsp. salt, 8 tsp. sugar, and 1 liter clean water (with some mashed fresh banana, if available, to add potassium) can work in an emergency. Diarrhea is usually caused by a viral, parasitic, or bacterial infection.

Oils: O⊖peppermint, O⊖ginger, ⊖geranium, O⊖Digestive Blend, ⊖orange, ⊖patchouli, ⊖melaleuca, ⊖sandalwood, ⊖lavender, ⊖Roman chamomile, ⊖cypress, ⊖eucalyptus

Other Products: ODigestive Softgels to help support healthy digestion.

—Children:

Oils: ⊖geranium, ⊖ginger, ⊖sandalwood

O: Place 1–2 drops in an empty capsule, and swallow. Take supplement as directed.

⊖: Dilute as recommended, and apply 1–2 drops on abdomen. Apply as a warm compress over affected area.

—Gas/Flatulence:

Oils: O⊖lavender, O⊖ginger, ⊖peppermint, O⊖cardamom, ⊖eucalyptus, ⊖bergamot, ⊖myrrh, ⊖juniper berry, ⊖rosemary

Other Products: ODigestive Softgels to help support healthy digestion.

O: Place 1–2 drops in an empty capsule, and swallow. Take supplement as directed.

⊖: Dilute as recommended, and apply 1–2 drops on stomach, abdomen, or reflex points on the feet

—Gastritis: *see also* Inflammation

Gastritis is inflammation of the stomach lining.

Oils: O⊖Digestive Blend, O⊖peppermint, Olemongrass⊖, ⊖Ofennel

Other Products: ODigestive Softgels to help support healthy digestion.

O: Add 1 drop of oil to rice or almond milk; take as a supplement. Place 1–2 drops in an empty capsule; swallow capsule. Take supplement as directed.

⊖: Dilute as recommended, and apply 1–2 drops on stomach. Apply as a warm compress over stomach.

—Giardia:

Giardia are parasites that infect the gastrointestinal tract of humans and animals. The form of *Giardia* that affects humans causes severe diarrhea. *See* Diarrhea *above* for information on rehydration.

Oils: O⊖lavender

O: Place 1–2 drops in an empty capsule; swallow capsule.

⊖: Dilute as recommended, and apply 1–2 drops on abdomen or reflex points on the feet.

—Heartburn:

Heartburn is a painful burning sensation in the chest or throat. It occurs as a result of backed up stomach acid in the esophagus. Heartburn is often brought on by certain foods, medication, pregnancy, and alcohol.

Oils: ⊖lemon, ⊖peppermint, ⊖ODigestive Blend

Blend 1: Blend 2 drops lemon, 2 drops peppermint, and 3 drops sandalwood in 1 Tbs. fractionated coconut oil. Apply to breast bone in a clockwise motion using the palm of the hand. Apply to reflex points on the feet.

Other Products: ODigestive Softgels to help support healthy digestion.

⊖: Dilute as recommended, and apply 1–2 drops to chest.

O: Add 1 drop of oil to rice or almond milk; take as a supplement. Place 1–2 drops in an empty capsule; swallow capsule. Take supplement as directed.

—Indigestion:

The term "indigestion" is used to describe abdominal discomfort felt after a meal. Symptoms of indigestion include belching, bloating, nausea, heartburn, a feeling of fullness, and general abdominal discomfort. Indigestion can be caused by overeating or eating too fast, alcoholic or carbonated drinks, particular foods, etc.

Oils: peppermint, ginger, Digestive Blend, lavender, orange, lime, thyme, myrrh, grapefruit

Other Products: Digestive Softgels to help support healthy digestion. Digestive Enzyme Complex for healthy digestion, enzymatic function, and cellular metabolism.

: Add 1–2 drops of oil to 8 oz. of almond or rice milk; drink. Place 1–2 drops of oil in an empty capsule; swallow capsule. Take capsules as directed on package.

: Dilute oil as recommended, and apply 1–2 drops on stomach or reflex points on feet. Dilute 1–2 drops in 1 Tbs. fractionated coconut oil, and massage over abdomen and lower back. Apply as a warm compress over stomach area.

: Diffuse into the air.

—Intestines:

The intestines are the largest organs in the digestive track. The intestines include the small intestine, which begins just below the stomach and is responsible for digesting and absorbing nutrients from the food, and the large intestine, which begins at the end of the small intestine and is responsible for reabsorbing water and some vitamins before the undigested food and waste is eliminated.

Oils: basil, marjoram, ginger, rose, rosemary

Other Products: GI Cleansing Formula to help the digestive system eliminate pathogens. Probiotic Defense Formula to provide friendly intestinal flora to aid digestion and help prevent pathogenic bacteria. Digestive Enzyme Complex for healthy digestion, enzymatic function, and cellular metabolism.

: Dilute oil as recommended, and apply 1–2 drops on stomach or reflex points on feet. Dilute 1–2 drops in 1 Tbs. fractionated coconut oil, and massage over abdomen and lower back. Apply as a warm compress over affected area.

: Take capsules as directed on package. Add 1–2 drops of oil to 16 oz. of water; drink. Add oils as flavoring to food. Place 1–2 drops of oil in a capsule, and swallow.

—Intestinal Parasites:

see Parasites:Intestinal

—Irritable Bowel Syndrome:

Irritable bowel syndrome is an intestinal disorder characterized by reoccurring diarrhea, bloating, gas, constipation, cramping, and abdominal pain. Irritable bowel syndrome is one of the most commonly diagnosed disorders by doctors.

Oils: peppermint, Digestive Blend

: Add 2 drops of each oil to 8 oz. distilled water, and drink 1–2 times per day. Place 2 drops of each oil in an empty capsule; swallow capsule.

: Dilute 1–2 drops in 1 Tbs. fractionated coconut oil, and apply over the abdomen with a hot compress.

—Nausea/Upset Stomach:

Oils: Digestive Blend, ginger, peppermint, lavender, Women's Monthly Blend, [illegible]

Other Products: Digestive Softgels to help support healthy digestion.

: Place 1–2 drops in an empty capsule; swallow capsule. Place 1 drop in 8 oz. rice or almond milk, and drink. Take supplement as directed.

: Dilute as recommended, and apply behind ears, on stomach, or on reflex points on the feet.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

—Parasites: *see Parasites*

—Stomach:

The stomach is the organ mainly responsible for breaking food apart using strong acids. It is located below the esophagus and before the intestines.

Oils: basil, peppermint, lemongrass, ginger, Digestive Blend

Other Products: Digestive Softgels to help support healthy digestion.

: Place 1–2 drops in an empty capsule, and swallow. Take supplement as directed.

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

⊖: Dilute as recommended, and apply 1–2 drops on stomach, abdomen, or reflex points on the feet

—**Ulcers:** *see Ulcers*

📖: **Additional Research:**

Peppermint: A combination of peppermint and caraway oil was found to reduce visceral hyperalgesia (pain hypersensitivity in the gastrointestinal tract) after induced inflammation in rats (Adam et al., 2006).

Peppermint: Peppermint oil was found to be as effective as Buscopan (an antispasmodic drug) at preventing spasms during a barium enema (a type of enema used to place barium in the colon for X-ray imaging purposes) (Asao et al., 2003).

Peppermint: The use of rosemary, lemon, and peppermint oils in massage demonstrated an ability to reduce constipation and increase bowel movements in elderly subjects, compared to massage without the oils (Kim et al., 2005).

Peppermint: Peppermint oil in enteric-coated capsules was found to relieve symptoms of irritable bowel syndrome better than a placebo in patients suffering from IBS (Rees et al., 1979).

Peppermint: Patients with IBS symptoms who took a peppermint-oil formulation in an enteric-coated capsule were found to have a significantly higher reduction of symptoms than did patients taking a placebo (Liu et al., 1997).

Peppermint: Children suffering from irritable bowel syndrome (IBS) who received peppermint oil in enteric-coated capsules (encapsulated so the capsules wouldn't open until they reached the intestines) reported a reduced severity of pain associated with IBS (Kline et al., 2001).

Peppermint: In irritable bowel syndrome patients without bacterial overgrowth, lactose intolerance, or celiac disease, peppermint oil was found over 8 weeks to reduce IBS symptoms significantly more than a placebo (Capello et al., 2007).

Peppermint: An enteric-coated capsule with peppermint and caraway oil was found to reduce pain and symptoms in patients with non-ulcer dyspepsia (indigestion), compared to a control (May et al., 1996).

Ginger: Ginger root given one hour before major gynecological surgery resulted in lower nausea and fewer incidences of vomiting compared to control (Nanthakomon et al., 2006).

Ginger: Ginger root given orally to pregnant women was found to decrease the severity of nausea and frequency of vomiting compared to control (Vutyavanich et al., 2001).

Ginger: In a trial of women receiving gynecological surgery, women receiving ginger root had less incidences of nausea than did those receiving a placebo. Ginger root has similar results to the antiemetic drug (a drug effective against vomiting and nausea) metoclopramide (Bone et al., 1990).

Lemongrass: Lemongrass and lemon verbena oil were found to be bactericidal to Helicobacter pylori (a pathogen responsible for gastroduodenal disease) at very low concentrations. Additionally, it was found that this bacteria did not develop a resistance to lemongrass oil after 10 passages, while this bacteria did develop resistance to clarithromycin (an antibiotic) under the same conditions (Ohno et al., 2003).

Wintergreen: Methyl salicylate (found in wintergreen or birch oils) was found to inhibit leukotriene C4 (a chemical messenger involved in inflammatory response), while also demonstrating gastroprotective against ethanol-induced gastric injury in rats (Trautmann et al., 1991).

Oregano: Oregano oil administered orally was found to improve gastrointestinal symptoms in 7 of 11 patients who had tested positive for the parasite Blastocystis hominis and was also found to cause disappearance of this parasite in 8 cases (Force et al., 2000).

Rosemary: The use of rosemary, lemon, and peppermint oils in massage demonstrated an ability to reduce constipation and increase bowel movements in elderly subjects, compared to massage without the oils (Kim et al., 2005).

Lemon: The use of rosemary, lemon, and peppermint oils in massage demonstrated an ability to reduce constipation and increase bowel movements in elderly subjects, compared to massage without the oils (Kim et al., 2005).

Lavender: Essential oil from Lavandula angustifolia demonstrated ability to eliminate protozoal pathogens Giardia duodenalis, Trichomonas vaginalis, and Hexamita inflata at concentrations of 1% or less (Moon et al., 2006).

Rose: Rose essential oil and its main constituents were found to inhibit rat isolated ileum (a section of the small intestine), suggesting that rose oil can be used as an antispasmodic remedy for treatment of abdominal spasm (Sadraei et al., 2013).

Disinfectant

A disinfectant is any substance that destroys microorganisms on non-living surfaces.

Oils: ⊖⊘lemon, ⊖⊘Cleansing Blend, ⊖⊘grapefruit, ⊘lemongrass📖, ⊘geranium📖

Other Products: Protective Hand Wash to cleanse hands and protect against harmful microorganisms.

Blend 1: Add 10 drops lavender, 20 drops thyme, 5 drops eucalyptus, and 5 drops oregano to a large bowl of water. Use to disinfect small areas.

⊖: Add 1–2 drops of oil to a wet cloth, and use to wipe down counters and other surfaces. Use hand wash as directed on packaging.

⊘: Diffuse into the air.

📖: **Additional Research:**

Lemongrass: A formulation of lemongrass and geranium oil was found to reduce airborne bacteria by 89% in an office environment after diffusion for 15 hours (Doran et al., 2009).

Geranium: A formulation of lemongrass and geranium oil was found to reduce airborne bacteria by 89% in an office environment after diffusion for 15 hours (Doran et al., 2009).

Diuretic

A diuretic is a substance that increases the rate of urination and fluid elimination from the body.

Oils: ⊖lemongrass, ⊖rosemary, ⊖cedarwood, ⊖lavender, ⊖patchouli, ⊖grapefruit, ⊖cypress, ⊖fennel, ⊖orange, ⊖lemon, ⊖oregano, ⊖juniper berry, ⊖marjoram

⊖: Dilute as recommended, and apply oils to kidney area on back and to bottoms of feet.

Diverticulitis

see Colon:Diverticulitis

Dysentery

see also Antibacterial, Digestive System:Diarrhea

Dysentery is severe, frequent diarrhea, often with blood or mucus, that occurs due to infection by bacteria or amoeba. Dysentery can be fatal due to dehydration if left untreated. *See Digestive System:Diarrhea* for information on rehydrating the body.

Oils: ⊖myrrh, ⊖eucalyptus, ⊖lemon, ⊖Roman chamomile, ⊖cypress, ⊖clove (amoebic), ⊖melissa

⊖: Dilute as recommended, and apply on abdomen and on bottoms of feet.

Dyspepsia

see Digestive System:Indigestion

Ears

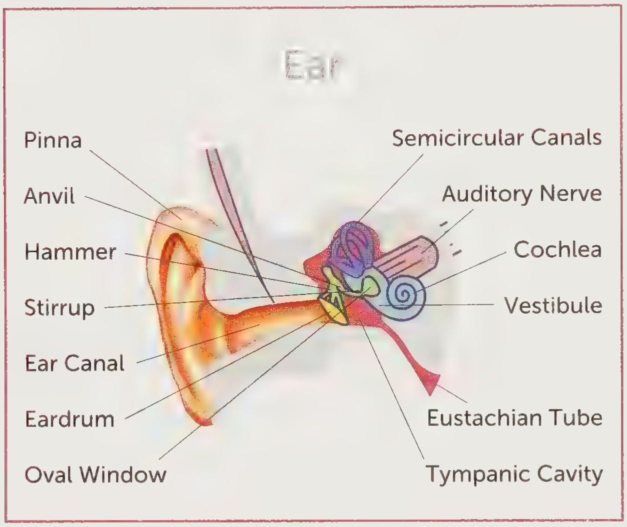
Oils: helichrysum, Cleansing Blend, eucalyptus, melaleuca, juniper berry, geranium, Grounding Blend, marjoram

—Earache:

Oils: basil, melaleuca, helichrysum

—Hearing in a Tunnel:

Oils: Cleansing Blend



—Infection:

Oils: melaleuca, Cleansing Blend, lavender

—Inflammation:

Oils: eucalyptus

—Tinnitus:

Tinnitus is a ringing or other audible noise in the ears caused by ear infection, wax buildup, or a block in the eustachian tube.

Oils: helichrysum, juniper berry

: Caution: Never put oils directly into the ear canal. Dilute as recommended, and apply 1–2 drops on surface of the ear and behind the ear on the mastoid bone. Apply 1 drop oil to small cotton ball, and place over opening to ear canal (do not press into the ear canal). Place 1 drop oil on cotton swab, and swab around the ear canal.

: Diffuse into the air.

Eating Disorders

—Anorexia:

Anorexia is a psychological disorder where a person becomes obsessed with body size and weight, often depriving him or herself of food to avoid gaining weight.

Oils: grapefruit, Invigorating Blend

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

—Bulimia:

Bulimia is a disorder categorized by periods of overeating, or binging, followed by periods of self-induced vomiting, fasting, or abuse of laxatives and diuretics to purge the body of the food or to compensate for the overeating.

Oils: grapefruit, Invigorating Blend

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

—Overeating:

Overeating is eating too much food for the body. It can include binging (eating so much at one time that the stomach is overly filled and uncomfortable or painful) or chronic overeating (eating more than the body needs over a long period of time). Consistently overeating can lead to obesity and other health problems.

Oils: Metabolic Blend, grapefruit, lemon, peppermint, ginger

Other Products: Trim Shakes

: Add 8 drops of Metabolic Blend to 16 oz. of water, and drink throughout the day between meals. Drink Trim or V Shake 1–2 times per day as a meal alternative.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: **Additional Research:**

Grapefruit: The scent of grapefruit oil and its component, limonene, was found to affect the autonomic nerves and to reduce appetite and body weight in rats exposed to the oil for 15 minutes three times per week (Shen et al., 2005).

Lemon: The scent of grapefruit oil and its component, limonene, was found to affect the autonomic nerves and to reduce appetite and body weight in rats exposed to the oil for 15 minutes three times per week (Shen et al., 2005).

Eczema

see *Skin:Dermatitis/Eczema*

Edema

see also *Allergis, Diuretic, Inflammation*

Edema is swelling caused by the abnormal accumulation of fluids in a tissue or body cavity. This can be caused by an allergic reaction, inflammation, injury, or as a signal of problems with the heart, liver, or kidneys.

Oils: ⊖○grapefruit, ⊖lemongrass, ⊖cypress, ⊖geranium, ⊖rosemary, ⊖cedarwood, ⊖juniper berry

⊖: Dilute as recommended, and apply 1–2 drops on location.

○: Add 1–2 drops to 8 oz. of water, and drink every 3 hours.

Elbow

see *Joints:Tennis Elbow*

Emergency Oils

The following oils are recommended to have on hand in case of an emergency:

Clove: Use as an analgesic (for topical pain relief) and a drawing salve (to pull toxins/infection from the body). Good for acne, constipation, headaches, nausea, and toothaches.

Frankincense: Enhances effect of any other oil. It facilitates clarity of mind, accelerates all skin recovery issues, and reduces anxiety and mental and physical fatigue. Reduces hyperactivity, impatience, irritability, and restlessness. Helps with focus and concentration.

Lavender: Use for agitation, bruises, burns (can mix with melaleuca), leg cramps, herpes, heart irregularities, hives, insect bites, neuropathy, pain (inside and out), bee stings, sprains, sunburn (combine with frankincense), and sunstroke. Relieves insomnia, depression, and PMS and is a natural antihistamine (asthma or allergies).

Lemon: Use for arthritis, colds, constipation, coughs, cuts, sluggishness, sore throats, sunburn, and wounds. It lifts the spirits and reduces stress and fatigue. Internally it counteracts acidity, calms an upset stomach, and encourages elimination.

Lemongrass: Use for sore and cramping muscles and charley horses (with peppermint; drink lots of water). Apply to bottoms of feet in winter to warm them.

Melaleuca: Use for bug bites, colds, coughs, cuts, deodorant, eczema, fungus, infections (ear, nose, or throat), microbes (internally), psoriasis, rough hands, slivers (combine with clove to draw them out), sore throats, and wounds.

Oregano: Use as heavy-duty antibiotic (internally with olive oil or coconut oil in capsules or topically on bottoms of feet—follow up with lavender and peppermint). Also for fungal infections and for reducing pain and inflammation of arthritis, backache, bursitis, carpal tunnel syndrome, rheumatism, and sciatica. Always dilute.

Peppermint: Use as an analgesic (for topical pain relief, bumps, and bruises). Can also be used for circulation, fever, headache, indigestion, motion sickness, nausea, nerve problems, or vomiting.

Massage Blend: Use for relaxation and stress relief. It is soothing and anti-inflammatory and enhances massage.

Respiratory Blend: Use for allergies, anxiety, asthma, bronchitis, congestion, colds, coughs, flu, and respiratory distress.

Soothing Blend: Use for pain relief. Works well in cases of arthritis, bruises, carpel tunnel, headaches, inflammation, joint pain, migraines, muscle pain, sprains, and rheumatism. Follow with peppermint to enhance affects.

Digestive Blend: Use for all digestion issues such as bloating, congestion, constipation, diarrhea, food poisoning (internal), heartburn, indigestion, motion sickness, nausea, and stomachache. Also works well on diaper rash.

Protective Blend: Use to disinfect all surfaces. It eliminates mold and viruses and helps to boost the immune system (bottoms of feet or internally; use daily).

Cleansing Blend: Use for airborne pathogens, cuts, germs (on any surface), insect bites, itches (all types and varieties), and wounds. Also boosts the immune system.

Repellent Blend: Deters all flying insects and ticks from human bodies and pets.

Emotions

see also Anxiety, Calming, Depression, Fear, Grief/Sorrow, Stress:Emotional Stress, Uplifting

To put it simply, emotions are the way we currently feel. These feelings come in response to what we see, smell, hear, feel, taste, think, or have experienced and can affect our future thoughts and behavior. While much is still being discovered about the complex psychological and physiological processes involved in emotions, researchers have discovered that emotions involve many different systems in the body, including the brain, the sensory system, the endocrine/hormonal system, the autonomic nervous system, the immune system, and the release or inhibition of neurotransmitters (such as dopamine) in the brain. Recent research has also begun to uncover compelling evidence that various essential oils and their components have the ability to affect each one of these systems, making the use of essential oils an intriguing tool for helping to balance emotions in the human body.

Oils: Massage Blend, Grounding Blend, Invigorating Blend, Joyful Blend, Calming Blend, Women's Monthly Blend, Blend for Women, Detoxification Blend, cypress, geranium, lavender, rose, orange, peppermint

—Acceptance:

Oils: Joyful Blend

—Alertness: *see also* Alertness

Oils: peppermint, ylang ylang, black pepper, juniper berry, cinnamon

—Anger:

Oils: Calming Blend, lavender, Focus Blend, ylang ylang, melissa, Joyful Blend, Grounding Blend, helichrysum

—Anxious: *see also* Anxiety

Oils: lavender, orange, lemon, Focus Blend, Calming Blend, Massage Blend, Joyful Blend, Grounding Blend (on back of neck), Respiratory Blend (on chest)

—Balance:

Oils: Grounding Blend, Massage Blend, Invigorating Blend, geranium, juniper berry, lavender, orange, sandalwood, vetiver

—Blocks:

Oils: cypress, frankincense, helichrysum, sandalwood, Grounding Blend

—Clearing:

Oils: Joyful Blend, juniper berry, Grounding Blend

—Coldness:

Oils: myrrh, ylang ylang

—Concentration: *see also* Concentration

Oils: Focus Blend, lavender, lemon, peppermint

—Confidence:

Oils: Joyful Blend, Blend for Women, cedarwood, orange

—Creativity:

Oils: frankincense, sandalwood, Joyful Blend, cypress, lemon

—Defeated:

Oils: cypress, white fir, Joyful Blend, juniper berry, Grounding Blend

—Depression: *see also* Depression

Oils: lemon, frankincense, Focus Blend, lavender, bergamot, Joyful Blend, Grounding Blend, Invigorating Blend

—Emotional Trauma:

Oils: sandalwood

—Expression (self-expression):

Oils: Grounding Blend, Joyful Blend

—Fear: *see also* Fear

Oils: Grounding Blend, ylang ylang, orange, sandalwood, Calming Blend, Joyful Blend

—Focus: *see Concentration*

—Grief/Sorrow: *see also* Grief/Sorrow

Oils: lemon, Joyful Blend, Grounding Blend, lavender, bergamot, orange,

⊘⊖Invigorating Blend, ⊘⊖grapefruit, ⊘⊖wintergreen

—Guilt:

Oils: ⊘⊖Joyful Blend, ⊖⊘Soothing Blend (on outer earlobes)

—Happiness/Joy:

Oils: ⊘⊖Joyful Blend, ⊘⊖Invigorating Blend, ⊘⊖lemon, ⊘⊖orange, ⊘⊖spearmint, ⊘⊖sandalwood, ⊘⊖bergamot

—Loss:

Oils: ⊘⊖Joyful Blend, ⊘⊖tangerine, ⊘⊖orange

—Mind (open):

Oils: ⊘⊖frankincense, ⊘⊖sandalwood, ⊘⊖Grounding Blend

—Negative Emotions:

Oils: ⊘⊖Joyful Blend, ⊘⊖Invigorating Blend, ⊘⊖orange, ⊘⊖grapefruit, ⊘⊖Grounding Blend, ⊘⊖white fir, ⊘⊖wintergreen, ⊘⊖lavender

—Overburdened/Overwhelmed:

Oils: ⊘⊖Grounding Blend, ⊘⊖Invigorating Blend, ⊘⊖orange

—Peace:

Oils: ⊘⊖Calming Blend, ⊘⊖lavender○, ⊖⊘Focus Blend, ⊘⊖ylang ylang○, ⊘⊖melissa○

—Pity (self-pity):

Oils: ⊘⊖Joyful Blend, ⊘⊖Invigorating Blend, ⊘⊖orange

—Positive (feeling):

Oils: ⊘⊖Joyful Blend, ⊘⊖basil, ⊘⊖peppermint, ⊘⊖frankincense, ⊘⊖cedarwood, ⊘⊖juniper berry

—Rejection:

Oils: ⊘⊖Grounding Blend, ⊘⊖lavender, ⊘⊖geranium

—Release:

Oils: ⊘⊖Roman chamomile

—Stress: *see also* Stress:Emotional Stress

Oils: ⊘⊖Joyful Blend, ⊘⊖clary sage, ⊘⊖bergamot, ⊘⊖Calming Blend

—Suicidal:

Oils: ⊘⊖Joyful Blend, ⊖⊘Massage Blend, ⊘⊖Invigorating Blend, ⊘⊖Calming Blend

—Uplifting: *see also* Uplifting

Oils: ⊘lemon○, ⊘orange, ⊘Joyful Blend, ⊘⊖Invigorating Blend

—Worried:

Oils: ⊘bergamot, ⊘⊖Calming Blend, ⊘⊖Joyful Blend, ⊘⊖Grounding Blend, ⊖⊘Massage Blend

⊘: Inhale directly from bottle. Diffuse into the air. Apply oil to hands, tissue, or cotton wick, and inhale.

⊖: Massage oils on back, chest, and/or legs. Gently massage 1–2 drops of oil into the outer lobes of the ear (avoid the ear canal). Add 1–2 drops of oil to a bath or shower gel or to bath salts, and use during a bath or shower.

○: Add 1–2 drops to 8 oz. distilled water or to 4 oz. rice or almond milk before drinking. Add 1–2 drops to an empty capsule, and swallow.

: **Additional Research:**

Peppermint: In human trials, the aroma of peppermint was found to enhance memory and increase alertness (Moss et al., 2008).

Ylang ylang: Inhaled ylang ylang oil was found to decrease blood pressure and pulse rate and to enhance attentiveness and alertness in volunteers compared to an odorless control (Hongratanaworakit et al., 2004).

Ylang ylang: In human trials, the aroma of peppermint was found to enhance memory and to increase alertness, while ylang ylang aroma was found to increase calmness (Moss et al., 2008).

Ylang ylang: Subjects who had ylang ylang oil applied to their skin had decreased blood pressure, increased skin temperature, and reported feeling more calm and relaxed, as compared to subjects in a control group (Hongratanaworakit et al., 2006).

Lavender: Lavandula angustifolia essential oil demonstrated ability to inhibit GABA-A receptor channels of rat brain cells (Huang et al., 2008).

Lavender: Inhaling lavender oil was found to be effective at alleviating agitated behaviors in older Chinese patients suffering from dementia (Lin et al., 2007).

Lavender: Female patients waiting for dental treatment were found to be less anxious, more positive, and more calm when exposed to orange oil odor than were patients who were not exposed to the orange oil odor (Lehrner et al., 2000).

Lavender: Exposure to lavender odor was found to decrease anxiety in gerbils in the elevated plus maze, with a further decrease in anxiety in females after prolonged (2 week) exposure (Bradley et al., 2007).

Lavender: Subjects receiving a lozenge containing lavender oil, hops extract, lemon balm, and oat were found to have increases in alpha 1, alpha 2, and beta 1 electrical output (Dimpfel et al., 2004).

Lavender: In patients admitted to an intensive care unit, those receiving lavender aromatherapy reported a greater improvement in mood and perceived levels of anxiety compared to those receiving massage or a period of rest (Dunn et al., 1995).

Lavender: Female patients being treated for chronic hemodialysis demonstrated less anxiety when exposed to lavender aroma compared to control (Itai et al., 2000).

Lavender: Lavender oil was found to demonstrate anti-conflict effects in mice similar to the anxiolytic (antianxiety) drug diazepam (Umezu, 2000).

Lavender: Subjects who smelled a cleansing gel with lavender aroma were more relaxed and able to complete math computations faster (Field et al., 2005).

Lavender: Subjects exposed to 3 minutes of lavender aroma were more relaxed and able to perform math computations faster and more accurately. Subjects exposed to rosemary aroma were more alert and completed math computations faster (but not more accurately) (Diego et al., 1998).

Lavender: In patients suffering from arthritis, it was found that a blend of lavender, marjoram, eucalyptus, rosemary, and peppermint blended with carrier oils was found to reduce perceived pain and depression compared to control (Kim et al., 2005).

Lavender: Female students suffering from insomnia were found to sleep better and to have a lower level of depression during weeks they used a lavender fragrance when compared to weeks they did not use a lavender fragrance (Lee et al., 2006).

Lavender: Swiss mice fed lavender oil diluted in olive oil were found to be more sedate in several common tests (Guillemain et al., 1989).

Melissa: Melissa (lemon balm) oil applied topically in a lotion was found to reduce agitation and to improve quality of life factors in patients suffering from severe dementia, as compared to those receiving a placebo lotion (Ballard et al., 2002).

Orange: Bitter orange peel oil taken orally by mice was found to reduce anxiety, increase sleeping time, and increase the time before a chemically-induced seizure started (Carvalho-Freitas et al., 2002).

Orange: Female patients waiting for dental treatment were found to be less anxious, more positive, and more calm when exposed to orange oil odor than patients who were not exposed to the orange oil odor (Lehrner et al., 2000).

Lemon: Rats exposed long-term to lemon essential oil were found to demonstrate different anxiety and pain threshold levels than untreated rats. It was also found that exposure to lemon oil induced chemical changes in the neuronal circuits involved in anxiety and pain (Ceccarelli et al., 2004).

Lemon: Lemon oil was found to have an antistress effect on mice involved in several behavioral tasks (Komiya et al., 2006).

Lemon: Lemon oil vapor was found to have strong antistress and antidepressant effects on mice subjected to several common stress tests (Komiya et al., 2006).

Lemon: Lemon oil and its component, citral, were found to decrease depressed behavior in a similar manner to antidepressant drugs in rats involved in several stress tests (Komori et al., 1995).

Lemon: In 12 patients suffering from depression, it was found that inhaling citrus aromas reduced the needed doses of antidepressants, normalized neuroendocrine hormone levels, and normalized immune function (Komori et al., 1995).

Lemon: Lemon odor was found to enhance the positive mood of volunteers exposed to a stressor (Kiecolt-Glaser et al., 2008).

Frankincense: Incensole acetate was found to open TRPV receptors in mice brains, indicating a possible channel for emotional regulation (Moussaieff et al., 2008).

Melissa: Melissa (lemon balm) oil applied topically in a lotion was found to reduce agitation and to improve quality of life factors in patients suffering severe dementia, as compared to those receiving a placebo lotion (Ballard et al., 2002).

Emphysema

Emphysema is a chronic pulmonary disease where airflow is restricted through the lungs due to destruction (typically caused by airborne toxins such as those in cigarette smoke) of the wall of the alveoli (small air sacs in the lungs where oxygen and carbon dioxide is exchanged with the blood). This destruction of the alveolar wall causes the alveoli to collapse when air is expelled from the lungs, trapping air inside.

Oils: eucalyptus, Respiratory Blend

◎: Diffuse into the air.

◑: Dilute as recommended, and apply 1–2 drops to chest and back. Apply as a warm compress on chest.

Endocrine System

see also *Adrenal Glands, Ovaries, Pancreas, Pineal Gland, Pituitary Gland, Testes, Thymus, Thyroid*

The endocrine system is the series of hormone-producing glands and organs that help regulate metabolism, reproduction, blood pressure, appetite, and many other body functions. The endocrine system is mainly controlled by the hypothalamus region of the brain that either produces hormones that stimulate the other endocrine glands directly, or that stimulates the pituitary gland located just below it to release the hormones needed to stimulate the other endocrine glands. These hormones are released into the blood stream where they travel to other areas of the body to either stimulate other endocrine glands or to stimulate tissues and organs of the body directly. Some essential oils may act as hormones or stimulate the endocrine system to produce hormones that have a regulating effect on the body.

Oils: Detoxification Blend, rosemary, cinnamon

Other Products: Detoxification Complex to help support healthy endocrine cleansing and filtering.

—Hormonal Balance:

Oils: clary sage, clove, ylang ylang

Other Products: Phytoestrogen Complex

–Female:

Oils: Women's Monthly Blend, Blend for Women

–Sexual Energy:

Oils: ylang ylang

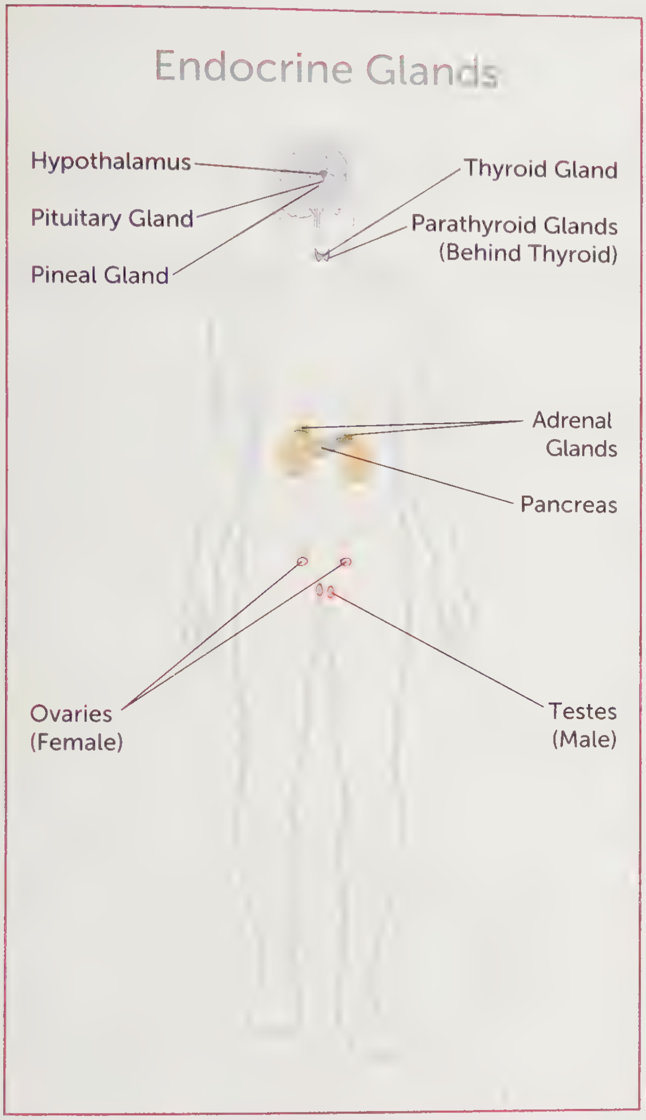
○: Take capsules as directed on package. Place 1–2 drops of oil under the tongue, or add 3–5 drops of essential oil to an empty capsule; swallow capsule.

◎: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

◑: Dilute as recommended, and apply 1–2 drops to the reflex points on the feet, lower back, thyroid,

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

liver, kidneys, gland areas, the center of the body, or both sides of the spine and clavicle area. Add 1–2 drops to 1 Tbs. fractionated coconut oil, and use as massage oil.



Endometriosis

Endometriosis is a chronic disorder in women where endometrium cells (cells from the lining of the uterus) grow outside of the uterus—typically around the ovaries, the ligaments that support the uterus, or the peritoneal (abdominal) cavity. These cells are often still responsive to the monthly hormone cycle that effects the changes in the uterus and can cause abnormal abdominal pain and irregularities in the menstrual cycle.

Oils: geranium, cypress, clary sage, Protective Blend, eucalyptus, Blend for Women

: Dilute as recommended, and apply 1–2 drops on lower abdomen or on feet. Apply as a warm compress. Place 1–2 drops in warm bathwater, and bathe.

Endurance

Oils: peppermint

Other Products: Energy & Stamina Complex, Cellular Vitality Complex, Chewable Multivitamin, Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Omega-3 Fish Oil, Food Nutrient Complex to provide nutrients and antioxidants that help support healthy cellular function and energy levels.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Take capsules as directed on package.

: **Additional Research:**

Peppermint: A quasi experiment comparing exercise performance before and after consumption of mineral water containing peppermint essential oil for 10 days found that exercise performance improved after consumption of peppermint oil (including increases in respiratory efficiency, energy expenditure, time to exhaustion, and distance during exercise and decreases in resting and exercise heart rates) (Meamarbashi et al., 2013).

Energy

Oils: peppermint, white fir, Joyful Blend, Grounding Blend, lemon, basil, thyme, rosemary, orange, lemongrass, eucalyptus

Other Products: Energy & Stamina Complex, Cellular Vitality Complex, Chewable Multivitamin, Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Omega-3 Fish Oil, Food Nutrient Complex to provide nutrients and antioxidants that help support healthy cellular function and energy levels.

—Exhaustion:

Oils: First, work with one or more of the following nervous system oils to help calm and relax: lavender, ylang ylang, Roman chamomile, frankincense, clary sage. Secondly, use an energizing oil such as lemon, sandalwood, rosemary, lime, basil, grapefruit.

—Fatigue:

Oils: rosemary (nervous fatigue), thyme (general fatigue)

–Mental Fatigue:

Oils: Calming Blend, lemongrass, basil

Blend 1: Blend equal parts basil and lemongrass together. Apply to temples, back of neck, and feet. Diffuse into the air.

–Physical Fatigue:

Oils: Calming Blend

—Physical:

Oils: lemon, cinnamon, bergamot

—Sexual:

Oils: ylang ylang

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Dilute 1–2 drops in 1 Tbs. fractionated coconut oil, and massage into muscles. Place 1–2 drops in warm bathwater, and bathe. Dilute as recommended, and apply 1–2 drops on temples, back of neck, liver area, or feet.

: Take capsules as directed on package.

: **Additional Research:**

Peppermint: A quasi experiment comparing exercise performance before and after consumption of mineral water containing peppermint essential oil for 10 days found that exercise performance improved after consumption of peppermint oil (including increases in respiratory efficiency, energy expenditure, time to exhaustion, and distance during exercise and decreases in resting and exercise heart rates) (Meamarbashi et al., 2013).

Epilepsy

see Seizure:Epilepsy

Epstein-Barr

see Mono; *see also* Antiviral:Epstein-Barr Virus

Estrogen

Estrogens are hormones produced by the ovaries that regulate the development of female characteristics and the menstrual cycle in females.

Oils: Women's Monthly Blend, clary sage

Other Products: Phytoestrogen Complex

: Apply on the lower abdomen. Dilute 1–2 drops in 1 Tbs. fractionated coconut oil, and use as massage oil.

: Take capsules as directed on package.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Exhaustion

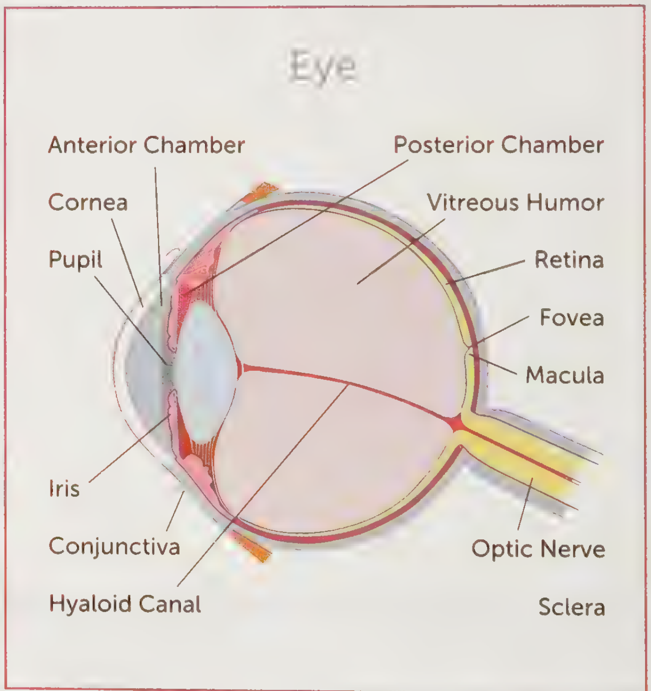
see Energy:Exhaustion

Expectorant

see Congestion:Expectorant

Eyes

Eyes are the organs of the body responsible for detecting and adjusting to light and focusing images of the surrounding environment onto the optical nerve for transfer to the brain for processing.



Oils: lemongrass, sandalwood, cypress, lemon, fennel, eucalyptus, lavender, Protective Blend

Other Products: Food Nutrient Complex for nutrients that help support healthy eye cell function.

Recipe 1: Eye Drop Recipe: Combine 5 parts distilled water, 2 parts honey, and 1 part apple cider vinegar (do not use white vinegar). Mix together, and store in a bottle. Does not need to be refrigerated. This special eye drop formula is found in Stanley Burroughs' book, *Healing for the Age of Enlightenment* and has proven over the years to be superior to most commercial eye drops. These drops have been used for glaucoma, cataracts, spots, film, and growths of various kinds. Apply drops one at a time to each eye several times a day until condition has cleared.

—Blocked Tear Ducts:

Tears from the eye normally drain through small tubes called tear ducts. The tear ducts carry tears from the surface of the eye into the nose where they are reabsorbed or evaporate. When these tear ducts are blocked, the eyes become watery and irritated. Blocked tear ducts are most common in babies and in older adults.

Oils: ⊖lavender

—Cataracts:

A cataract is a clouding of the normally transparent lens of the eye. This clouding results in blurry vision, seemingly faded colors, double vision, glare, and difficulty seeing at night. Over time, the clouding can increase and lead to severe vision problems.

Oils: ⊖clove, ⊖lavender

Blend 1: Combine 8 drops lemongrass, 6 drops cypress, and 3 drops eucalyptus. Apply around the eye area two times a day. Do not get oil in the eyes.

—Dry/Itchy Eyes:

Oils: ⊘melaleuca (in humidifier)

—Eye Lid Drop/Drooping Eyelid:

A drooping eyelid is characterized by an excessive sagging of the upper eyelid. Drooping can be present at birth as a result of underdeveloped eyelid muscles, or it can occur with aging. Drooping eyelids can cause visual impairment if they droop enough to partially cover the eye.

Blend 2: Combine equal parts helichrysum and peppermint, and apply 1–2 drops on the eyelid. Do not get oil in the eyes.

—Improve Vision:

Oils: ⊖frankincense, ⊖lemongrass, ⊖juniper berry, ⊖Protective Blend, ⊖sandalwood, ⊖lavender

Blend 3: Combine 10 drops lemongrass, 5 drops cypress, and 3 drops eucalyptus with 2 Tbs. fractionated coconut oil. Apply around the eyes morning and night, or apply on reflex points on the feet or on the ears.

—Iris Inflammation:

The iris is the colored part of the eye that regulates the amount of light entering the eye through the pupil. When the iris becomes inflamed, it results in a condition called iritis. Iritis is normally related to a disease or infection in another part of the body, but it can also be caused by injury to the eye. Symptoms of iritis include blurred vision, pain, tearing, light sensitivity, red eye, and a small pupil size.

Oils: ⊖eucalyptus

—Macular Degeneration:

Macular degeneration is an eye disease common in individuals 65 and older. It is marked by degeneration of a small, oval-shaped part of the retina called the macula. Because the macula is responsible for capturing the light from the central part of images coming into the eye, macular degeneration causes blurring or a blind spot in the central vision, making it difficult to drive, recognize faces, read, or do any kind of detail work.

Oils: ⊖clove

—Pink Eye:

Pink eye, also known as conjunctivitis, is an inflammation or infection of the membranes covering the whites of the eyes (conjunctiva) and the inner part of the eyelids. Swelling, redness, itching, discharge, and burning of the eyes are common symptoms of pink eye. Frequent causes include allergies, bacterial or viral infection, contact lenses, and eye drops.

Oils: ⊖⊘melaleuca, ⊖⊘lavender

—Retina (strengthen):

The retina is a layer of nerves lining the back of the eye. The retina is responsible for sensing light and then sending impulses (via the optic nerve) back to the brain so that visual images can be formed.

Oils: ⊖cypress, ⊖lemongrass, ⊖helichrysum, ⊖juniper berry, ⊖peppermint, ⊖lavender, ⊖sandalwood

—Swollen Eyes:

Oils: cypress, helichrysum, peppermint (allergies), lavender

: Caution: Never put essential oils directly in the eyes! Be careful when applying oils near the eyes. Be sure to have some fractionated coconut oil handy for additional dilution if irritation occurs. Never use water to wash off an oil that irritates. Dilute as recommended, and apply 1–2 drops around eyes or to feet, thumbs, ankles, pelvis, base of neck, or reflex points on the feet.

: Diffuse into the air.

: Take capsules as directed on package.

Facial Oils

see Skin

Fainting

see also Shock

Fainting is a temporary loss of consciousness caused by a momentary disruption of blood flow to the brain. Fainting can result from standing in one place too long, coughing very hard, fear, emotional trauma, heavy bleeding, or severe dehydration. Fainting can sometimes be a symptom of a more serious condition.

Oils: peppermint, rosemary, basil, lavender

: Inhale directly from bottle.

Fatigue

see Energy:Fatigue

Fear

see also Anxiety, Calming

Fear causes the blood vessels to tighten, restricting the amount of oxygen and nutrients that can reach the cells.

Oils: Grounding Blend, ylang ylang, orange, sandalwood, clary sage, geranium, juniper berry, myrrh, bergamot, white fir, cypress, marjoram

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Dilute as recommended, and apply 1–2 drops to temples, back of neck, or bottoms of feet.

: Additional Research:

Ylang ylang: Subjects who had ylang ylang oil applied to their skin had decreased blood pressure, increased skin temperature, and reported feeling more calm and relaxed compared to subjects in a control group (Hongratanaworakit et al., 2006).

Orange: Female patients waiting for dental treatment were found to be less anxious, more positive, and more calm when exposed to orange oil odor than were patients who were not exposed to the orange oil odor (Lehrner et al., 2000).

Feet

see Foot

Female Specific Conditions

see also Endometriosis, Pregnancy/Motherhood

—Hemorrhaging: *see* Blood:Hemorrhaging

—Hot Flashes:

A hot flash is a sudden, intense feeling of heat in the face and upper body, often accompanied by an increased heart rate, sweating, dizziness, headache, weakness, or anxiety. Hot flashes are generally associated with the symptoms of menopause and premenopause.

Oils: Women's Monthly Blend, Grounding Blend, peppermint, clary sage

Other Products: Phytoestrogen Complex, Daily Supplements Pack (contains Cellular Vitality Complex, Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Omega-3 Fish Oil, and Food Nutrient Complex)

Recipe 1: Both morning and evening, apply 1–2 drops each of Grounding Blend and peppermint to back of neck; then apply 1–2 drops clary sage to forearms in the morning and to ankles in the evening. The Daily Supplements Pack may also be taken to help regulate the hormonal system.

—Hormones (balancing):

Oils: Women's Monthly Blend, ylang ylang, clary sage

Other Products: Phytoestrogen Complex

—Infertility:

Infertility is clinically defined as the inability to get pregnant after a year of trying. This could be due to any of several underlying causes.

Oils: clary sage, geranium, melissa, cypress, thyme, fennel, Roman chamomile, ylang ylang

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

–Menopause:

Menopause is the permanent ending of a female's menstruation and fertility. For most American women, Menopause occurs around age 51 and is often recognized by hot flashes, irregular periods, vaginal dryness, mood swings, difficulty sleeping, thinning hair, abdominal weight gain, and decreased fertility.

Oils: 🖐≈Women's Monthly Blend, 🖐cypress, 🖐lavender🛁, 🖐Roman chamomile, 🖐orange, 🖐clary sage, 🖐💧fennel🛁, 🖐basil, 🖐geranium, 🖐rosemary, 🖐thyme

Other Products: 💧Phytoestrogen Complex, 💧Bone Nutrient Complex

–Premenopause:

Oils: 🖐≈Women's Monthly Blend, 🖐clary sage, 🖐lavender

Other Products: 💧Phytoestrogen Complex, 💧Bone Nutrient Complex

–Menstruation:

Menstruation, also known as a woman's "period," is the regular shedding of the uterus lining and vaginal discharge of blood when a woman is not pregnant. A woman's period lasts between two and seven days and reoccurs on an average of every 28 days.

–Amenorrhea:

Amenorrhea is the absence of menstruation. The following oils may help induce menstrual flow (emmenagogic) and may need to be avoided during pregnancy for this reason. See Pregnancy/Motherhood for further safety data.

Oils: 🖐≈Women's Monthly Blend, 🖐basil, 🖐clary sage, 🖐peppermint, 🖐rosemary, 🖐juniper berry, 🖐marjoram, 🖐lavender, 🖐Roman chamomile

Other Products: 💧Phytoestrogen Complex

–Dysmenorrhea:

Dysmenorrhea is painful menstruation. Apply one or more of these oils to the abdomen. It may also help to use a hot compress.

Oils: 🖐≈Women's Monthly Blend, , 🖐clary sage🛁, 🖐geranium 🖐lavender🛁, 🖐rose🛁, 🖐cypress, 🖐peppermint, 🖐marjoram, 🖐Roman chamomile, 🖐basil, 🖐rosemary, 🖐fennel

Other Products: 💧Phytoestrogen Complex

–Irregular:

Oils: 🖐≈Women's Monthly Blend, 🖐peppermint, 🖐rosemary, 🖐Roman chamomile, 🖐clary sage, 🖐fennel, 🖐lavender, 🖐rose

Other Products: 💧Phytoestrogen Complex

–Menorrhagia:

Menorrhagia is abnormally heavy or extended menstrual flow. It may also refer to irregular bleeding at any time. This situation may be a sign of a more serious condition, so please see your doctor.

Oils: 🖐≈Women's Monthly Blend, 🖐cypress, 🖐geranium, 🖐Roman chamomile, 🖐rose

Other Products: 💧Phytoestrogen Complex

–Scanty:

Oils: 🖐≈Women's Monthly Blend, 🖐peppermint, 🖐lavender, 🖐melissa

Other Products: 💧Phytoestrogen Complex

–Ovaries:

Ovaries are the female reproductive organs in which eggs are produced and stored.

Oils: 🖐≈Women's Monthly Blend, 🖐rosemary, 🖐geranium, 🖐Digestive Blend

Other Products: 💧Phytoestrogen Complex

–Ovarian Cyst:

Oils: 🖐basil

–PMS:

Premenstrual syndrome (PMS) is a group of symptoms such as irritability, anxiety, moodiness, bloating, breast tenderness, headaches, and cramping that occurs in the days or hours before menstruation begins and then disappear once menstruation begins. PMS is thought to be caused by the fluctuation in hormones during this time or by the way progesterone is broken down by the body. Caffeine intake from beverages or chocolate is also thought to enhance PMS symptoms.

Oils: Women's Monthly Blend, clary sage, geranium, fennel, lavender, bergamot, grapefruit

Other Products: Phytoestrogen Complex, Bone Nutrient Complex or Food Nutrient Complex contain calcium, which has been found to help lessen PMS symptoms.

–Apathetic-Tired-Listless:

Oils: Women's Monthly Blend, grapefruit, geranium, bergamot, fennel

Other Products: Phytoestrogen Complex

–Irritable:

Oils: Women's Monthly Blend, clary sage, bergamot, Roman chamomile

Other Products: Phytoestrogen Complex

–Violent Aggressive:

Oils: Women's Monthly Blend, geranium, bergamot

Other Products: Phytoestrogen Complex

–Weeping-Depression:

Oils: Women's Monthly Blend, clary sage, bergamot, geranium

Other Products: Phytoestrogen Complex

—Postpartum Depression: *see Pregnancy/Motherhood:Postpartum Depression*

: Dilute as recommended, and apply to the abdomen, lower back, shoulders, or reflex points on the feet. Add 1–2 drops to 1 Tbs. fractionated coconut oil, and massage into abdomen, lower back, and shoulders. Apply as a warm compress to the abdomen. Add 1–2 drops to 2 tsp. olive oil, insert into vagina, and retain overnight with a tampon.

: Place in hands and inhale. Diffuse into the air.

: Take capsules as directed on package.

: **Additional Research:**

Lavender: Inhalation of linalool or *Lavandula burnatii* super-derived essential oil (composed from the five main lavender oils and containing a high level of linalool) was found to aid in the recovery of ether-inhalation induced decrease in adrenaline, noradrenaline, and dopamine levels in female menopausal model rats. The researchers stated that these results suggest that lavender or linalool may contribute to relieving tension and may be applicable to the treatment of menopausal disorders (Yamada et al., 2005).

Fennel: Using a mouse model of postmenopausal bone loss researchers found that oral administration of fennel oil for six weeks had an intermediate effect on the prevention of femoral bone mineral density and bone mineral content when compared to controls. These findings suggest that fennel oil has potential in preventing bone loss in postmenopausal osteoporosis (Kim et al., 2012).

Clary Sage: In an experiment with 67 female college students, an aromatherapy massage with lavender, clary sage, and rose essential oils proved to be more effective at treating dysmenorrhea than a placebo treatment of almond oil or the control (Han et al., 2006).

Clary sage, lavender, and marjoram: Compared to a synthetic fragrance, dysmenorrhea pain decreased and shortened in duration when subjects massaged a blend of lavender, marjoram, and clary sage essential oils (in a ratio of 2:1:1) daily on the abdomen between menstruations (Ou et al., 2012).

Rose: A study with 92 university age female students with primary dysmenorrhea found that ingestion of a capsule containing 200 mg of Rosa damascena extract every 6 hours at the first 3 days of menstruation was as effective as administration of Mefenamic acid (a drug with possible adverse reactions and side effects) (Bani et al., 2014).

Thyme: A study comparing administration of thyme essential oil, ibuprofen, and placebo treatment revealed that thyme essential oil alleviates dysmenorrhea pain as well as ibuprofen and works significantly better than the placebo treatment (Salmalian et al., 2014).

Fertility

see Female Specific Conditions:Infertility, Male Specific Conditions:Infertility

Fever

see also Cooling Oils

Fever is an increase of the body's core temperature, typically in response to an infection or injury. A fever is the body's natural response to help enhance the immune system's ability to fight the infection.

Oils: peppermint, lemon, lime, eucalyptus, clove, patchouli, melaleuca, ginger, lavender, basil, white fir, bergamot

—To Cool the System:

Oils: clove, peppermint, eucalyptus, bergamot

—To Induce Sweating:

Oils: basil, fennel, melaleuca, peppermint, rosemary, lavender, cypress

: Place 1–2 drops of oil under the tongue or place 1–2 drops of essential oil into capsule; then swallow capsule. Place 1–2 drops in 8 oz. of rice milk or water, and sip slowly.

: Dilute as recommended, and apply to back or to bottoms of the feet.

: Diffuse into the air.

Fibrillation

see Cardiovascular System

Fibroids

Fibroids are noncancerous growths of muscle and connective tissue in the uterus. Fibroids can be painful and may affect fertility and pregnancy.

Oils: ⊖frankincense, ⊖helichrysum, ⊖oregano, ⊖Grounding Blend, ⊖lavender

⊖: Place 3 drops of oil in douche. Dilute as recommended, and apply to reflex points on the feet.

Fibromyalgia

Fibromyalgia is long-term localized or generalized aches, pain, or tenderness in the muscles, ligaments, or other soft tissue that can interfere with normal movement, sleep, or other activities. There is no known cause of fibromyalgia, and many different factors may contribute to the development of this condition. Some have suggested eliminating refined sugar from the diet. Others have recommended reducing stress, stretching exercises, massage, or better sleep.

Oils: ⊖Soothing Blend, ⊖wintergreen, ⊖helichrysum, ⊖lavender, ⊖rosemary, ⊖thyme

Other Products: OEnergy & Stamina Complex, OCellular Vitality Complex, OChewable Multivitamin, OEssential Oil Omega Complex or Vegan Essential Oil Omega Complex, OOmega-3 Fish Oil, OFood Nutrient Complex for nutrients needed for healthy muscle and nerve cell function.

⊖: Add 1–2 drops of oil to 1 Tbs. fractionated coconut oil, and massage on location. Apply as a warm compress over affected area.

O: Take capsules as directed on package.

Finger (mashed)

Recipe 1: Apply 1 drop geranium (for bruising), 1 drop helichrysum (to stop the bleeding), 1 drop lavender, 1 drop lemongrass (for tissue repair), and 1 drop Soothing Blend (for pain).

Flatulence

see *Digestive System:Gas/Flatulence*

Flu

see *Influenza*

Fluids

see *Edema, Diuretic*

Food Poisoning

see also *Antibacterial, Antifungal, Antiviral, Digestive System, Parasites*

Food poisoning refers to the effects on the digestive tract by pathogenic organisms—or the toxins they produce—that are ingested into the body in food. Symptoms of food poisoning can include stomach pain, cramps, diarrhea, nausea, and vomiting.

Oils: ODigestive Blend⊘, OProtective Blend, Orosemary

Other Products: ODigestive Softgels OProtective Softgels

O: Add 6 drops to 8 oz. of water. Swish around in the mouth, and swallow. Place 1–2 drops in an empty capsule, and swallow.

: Additional Research:

Digestive Blend: Peppermint and spearmint oils inhibited resistant strains of Staphylococcus, E. coli, Salmonella, and Helicobacter pylori (Imai et al., 2001).

Foot

Oils: ⊖lemon, ⊖lavender, ⊖Roman chamomile

—Athlete's Foot: *see* *Antifungal:Athlete's Foot*

—Blisters:

Oils: ⊖lavender, ⊖geranium, ⊖melaleuca, ⊖Cleansing Blend

—Bunion: *see also* *Bursitis*

A bunion is bursitis located at the base of the big toe. It is often caused by constrictive shoes that force the big toe to point inward and the base of the big toe to jut outward. This misplacement can irritate the bursa located at the base of the toe and cause it to become inflamed, which causes further irritation.

Oils: ⊖cypress

—Calluses:

A callus is a flat, thick growth of skin that develops on areas of the skin where there is constant friction or rubbing. Calluses typically form on the bottoms of the feet, but they can also form on the hands or other areas of the body exposed to constant friction.

Oils: ⊖oregano

—Club Foot:

Oils: ginger, rosemary, lavender, Roman chamomile

—Corns:

Corns are painful growths that develop on the small toes due to repetitive friction in that area (often from ill-fitting footwear). If untreated, corns can cause increased pressure on underlying tissue, causing tissue damage or ulcerations.

Oils: clove, peppermint, grapefruit, Invigorating Blend

◑: Dilute as recommended, and apply to area. Combine 1–2 drops with fractionated coconut oil, and massage on location.

Forgetfulness

see *Memory*

Free Radicals

see *Antioxidant*

Frigidity

see *Sexual Issues:Female Frigidity*

Fungus

see *Antifungal*

Gallbladder

The gallbladder is a small sac that stores extra bile from the liver until it is needed to help with digestion in the small intestine. The gallbladder is located just below the liver.

Oils: geranium, rosemary, lavender, juniper berry

—Infection:

Oils: helichrysum

—Stones:

Gallstones are formed by cholesterol that has crystallized from the bile stored in the gallbladder. These stones can sometimes block the duct that comes from the gallbladder or the small opening from the common hepatic duct that allows bile to flow into the small intestine. Gallstones blocking these ducts can be painful and can lead to more serious complications, such as infections or jaundice.

Oils: grapefruit, geranium, rosemary, juniper berry, wintergreen, lime

◑: Dilute as recommended, and apply 1–2 drops over gallbladder area. Apply as a warm compress over the gallbladder area.

Gallstones

see *Gallbladder:Stones*

Gangrene

Gangrene is the localized decay of body tissue caused by a loss of blood to that area. Gas gangrene is caused by bacteria invading a deep wound that has lessened the blood supply or cut it off entirely. The bacteria create gases and pus in the infected area, causing severe pain and accelerating decay of the tissue.

Oils: lavender, Protective Blend, thyme

◑: Dilute as recommended, and apply 1–3 drops on location.

Gas

see *Digestive System: Gas/Flatulence*

Gastritis

see *Digestive System:Gastritis*

Genitals

see *Female Specific Conditions,*
Male Specific Conditions/Issues

Germs

see *Antibacterial, Antifungal, Antiviral*

Gingivitis

see *Oral Conditions:Gum Disease*

Goiter

see *Thyroid:Hyperthyroidism*

Gout

Gout is a painful inflammation of a joint caused by a buildup of uric acid crystals deposited in the joint. Uric acid is formed during the natural breakdown of dead

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

tissues in the body. An excess of uric acid in the bloodstream can lead to the formation of crystals in the joints or kidneys (kidney stones). Some good ways to prevent the formation of uric acid crystals include maintaining a healthy body weight (which leaves less body tissue to be broken down), exercising, and drinking plenty of water.

Oils: lemon, geranium, Soothing Blend, wintergreen, thyme

: Place 1–2 drops in 8 oz. of water, and drink. Place 1–2 drops of oil under the tongue or place 1–2 drops in an empty capsule, and swallow.

: Dilute as recommended, and apply on location. Add 1–2 drops to 1 Tbs. fractionated coconut oil, and massage on location.

Grave's Disease

see Thyroid:Hyperthyroidism

Grave's disease is an autoimmune disease caused by an abnormally-shaped protein stimulating the thyroid to make and secrete more hormones. This can cause an enlargement of the thyroid (goiter), bulging eyes, increased heart rate, high blood pressure, and anxiety.

Oils: lemongrass, myrrh

Other Products: Food Nutrient Complex for nutrients and minerals to help support thyroid function.

: Dilute as recommended, and apply on thyroid area or on reflex points on the feet.

: Diffuse into the air.

: Take capsules as directed on package.

Grief/Sorrow

Oils: lemon, Joyful Blend, Grounding Blend, lavender, bergamot, clary sage, juniper berry, eucalyptus, helichrysum

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale. Wear 1–2 drops as perfume or cologne.

: Dilute as recommended, and apply 1–2 drops to the forehead, shoulders, or feet. Add 1–2 drops to 1 Tbs. fractionated coconut oil, and massage over whole body.

: **Additional Research:**

Lemon: Lemon odor was found to enhance the positive mood of volunteers exposed to a stressor (Kiecolt-Glaser et al., 2008).

Lemon: Lemon oil vapor was found to have strong antistress and antidepressant effects on mice subjected to several common stress tests (Komiya et al., 2006).

Lemon: Lemon oil and its component, citral, were found to decrease depressed behavior in a similar manner to antidepressant drugs in rats involved in several stress tests (Komori et al., 1995).

Lemon: In 12 patients suffering from depression, it was found that inhaling citrus aromas reduced the needed doses of antidepressants, normalized neuroendocrine hormone levels, and normalized immune function (Komori et al., 1995).

Bergamot: Lemon oil and its component, citral (also found in Bergamot), were found to decrease depressed behavior in a similar manner to antidepressant drugs in rats involved in several stress tests (Komori et al., 1995).

Gum Disease

see Oral Conditions:Gum Disease

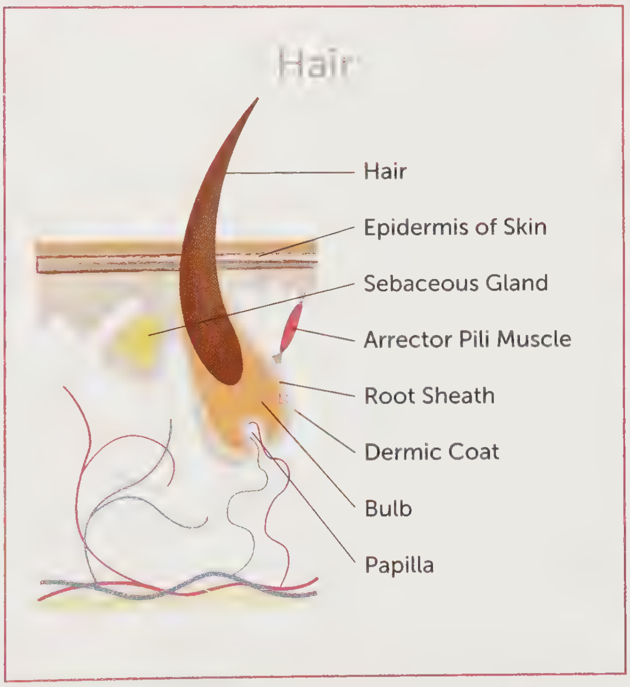
Gums

see Oral Conditions:Gums

Habits

see Addictions

Hair



Other Products: Smoothing Conditioner, Protecting Shampoo, Hair Serum, Hair Glaze.

—Beard:

Oils: rosemary, lemon, lavender, thyme, cypress

—Children:

Oils: lavender

—Damaged:

Other Products: Smoothing Conditioner, Protecting Shampoo, Hair Serum

—Dandruff: *see also* *Antifungal*

Dandruff is a scalp condition characterized by the excessive shedding of dead skin cells. A small amount of flaking on the scalp is normal as old skin cells die off and fall away, but dandruff results when the amount of dead skin cells becomes excessive and visible. Dandruff can be caused by many possible factors: hormonal imbalance, poor hygiene, allergies, excessive use of hair sprays and gels, excessive use of curling irons, cold weather, infrequent shampooing, etc. Many specialists believe that dandruff is caused by a tiny fungus called *Pityrosporum ovale*.

Oils: lavender, wintergreen, cypress, rosemary, cedarwood, thyme

—Dry:

Oils: geranium, sandalwood, lavender, rosemary, wintergreen

Other Products: Smoothing Conditioner, Protecting Shampoo, Hair Serum

—Estrogen Balance:

Estrogen is a steroid hormone that causes the development of female characteristics such as breasts and larger hips, helps with calcium uptake and balance, and plays many other important roles. Estrogen also helps hair to grow faster and to stay on the head longer. If estrogen levels fall, hair loss can quickly result.

Oils: clary sage

—Fragile Hair:

Oils: clary sage, lavender, thyme, sandalwood, wintergreen, Roman chamomile

Other Products: Smoothing Conditioner, Protecting Shampoo, Hair Serum

—Greasy/Oily Hair:

Oils: basil, cypress, thyme, lemon, rosemary

Other Products: Smoothing Conditioner, Protecting Shampoo

—Growth (stimulate):

Oils: thyme, lavender, rosemary, ylang ylang, cedarwood, clary sage, geranium, ginger, lemon, grapefruit

—Itching:

Oils: peppermint, lavender

—Loss:

One common form of hair loss, especially in males, is androgenic alopecia (also known as male-pattern baldness in males). This condition is thought to be caused by a genetically-predisposed sensitivity within the hair follicles to androgen hormones that causes them to shrink when exposed to this hormone. This shrinking of the hair follicles inhibits their ability to produce hair, leading to a receding hairline and partial baldness on the top and sides of the head in males and thinning hair in females. Another common form of baldness, especially in females, is alopecia areata, which is a condition in which hair loss occurs on all or part of the body. The most common form of alopecia areata involves the loss of round patches of hair on the scalp, leading this condition to be commonly referred to as "spot baldness."

Oils: rosemary, lavender, thyme, ylang ylang, cedarwood, wintergreen, lemon, clary sage, cypress, Roman chamomile

: Apply 1–2 drops of oil to hands, and massage into hair and scalp before bath or shower; then shampoo and rinse hair as normal. Add 1–2 drops of oil to 2 Tbs. of an unscented shampoo or shower gel, and use to shampoo hair. Use shampoo and conditioner as directed on bottles.

: **Additional Research:**

Thyme: Patients with alopecia areata (hair loss) that massaged carrier oils containing a blend of thyme, rosemary, lavender, and cedarwood oils into their scalps were more likely to show improvement when compared to a control group that massaged carrier oils alone into their scalps (Hay et al., 1998)

Lavender: Patients with alopecia areata (hair loss) that massaged carrier oils containing a blend of thyme, rosemary, lavender, and cedarwood oils into their scalps were more likely to show improvement when compared to a control group that massaged carrier oils alone into their scalps (Hay et al., 1998)

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

Rosemary: Patients with alopecia areata (hair loss) that massaged carrier oils containing a blend of thyme, rosemary, lavender, and cedarwood oils into their scalps were more likely to show improvement when compared to a control group that massaged carrier oils alone into their scalps (Hay et al., 1998)

Halitosis

see Oral Conditions:Halitosis

Hands

Oils: ⊖geranium, ⊖lemon, ⊖lemongrass, ⊖sandalwood, ⊖rosemary, ⊖eucalyptus

—Dry:

Oils: ⊖geranium, ⊖sandalwood

—Neglected:

Oils: ⊖geranium, ⊖lemon

—Tingling In:

Oils: ⊖lemongrass

⊖: Dilute as recommended, and apply 1–2 drops to hands. Dilute 1–2 drops in 1 Tbs. almond or olive oil, and use as massage oil to massage into hands.

Hangovers

A hangover is a set of unpleasant physical effects that comes after heavy alcohol consumption. Common symptoms of a hangover include nausea, headache, lack of energy, diarrhea, and increased sensitivity to light and noise.

Oils: ⊖⊘lemon, ⊖⊘grapefruit, ⊖⊘lavender, ⊖⊘rosemary, ⊖⊘sandalwood

⊖: Add 3–4 drops to warm bathwater, and bathe. Dilute as recommended, and apply 1–2 drops to back of neck or over liver. Add 1–2 drops to 1 Tbs. fractionated coconut oil, and massage onto back and neck.

⊘: Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale. Drop 1–2 drops in bowl of hot water, and inhale vapors. Diffuse into the air.

Hashimoto's Disease

see also Thyroid:Hypothyroidism.

Hashimoto's disease is an autoimmune disorder where the immune system attacks the thyroid, causing it to swell up and become irritated. Hashimoto's disease does not have a unique set of symptoms, but possible symptoms include abnormal fatigue, weight gain, muscle pain and stiffness, a hoarse voice, prolonged menstrual bleeding, constipation, a feeling of tightness in the throat, sensitivity to cold, dry skin, and depression.

Oils: ⊖⊘lemongrass, ⊖⊘myrrh

Other Products: OFood Nutrient Complex , OCellular Vitality Complex, OChewable Multivitamin to help provide nutrients essential for thyroid cell health.

⊖: Dilute as recommended, and apply 1–2 drops over thyroid area or on reflex points on the feet.

⊘: Diffuse into the air. Inhale oil applied to hands.

O: Take capsules as directed on package.

Hay Fever

see Allergies:Hay Fever

Head Lice

see Insects/Bugs:Lice

Headaches

Oils: ⊖⊘Headache Relief Blend, ⊖⊘peppermint⊖, ⊖⊘rosemary, ⊖⊘Soothing Blend, ⊖⊘cardamom, ⊖⊘eucalyptus, ⊖⊘frankincense, ⊖⊘patchouli, ⊖⊘basil, ⊖⊘marjoram, ⊖⊘lavender⊖, ⊖⊘clove

Recipe 1: Apply 1–2 drops each of peppermint, lavender, and frankincense to back of neck, temples, and forehead.

—Migraine Headache:

A migraine is a severe and painful type of headache. Symptoms of migraines include throbbing pain accompanied by nausea, vomiting, and heightened sensitivity to light. Women are much more likely than men to suffer from migraines. Migraines can be triggered by stress, anxiety, sleep or food deprivation, bright lights, loud noises, and hormonal changes.

Oils: ⊖⊘Headache Relief Blend, ⊖⊘peppermint, ⊖⊘basil, ⊖⊘Soothing Blend, ⊖⊘wintergreen, ⊖⊘ylang ylang

—Tension Headache:

Tension headaches (also called "stress headaches") are the most common type of headache. Tension headaches are characterized by dull, constant pressure or pain (usually on both sides of the head).

Tension headaches can last from thirty minutes to several days and tend to come back when a person is under stress.

Oils: Headache Relief Blend, peppermint, Soothing Blend

—Sugar Headache (caused by low blood sugar):

Oils: Protective Blend

: Dilute as recommended, and apply 1–2 drops to temples, back of neck, and forehead.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: **Additional Research:**

Peppermint: A combination of peppermint oil and ethanol was found to have a significant analgesic effect with a reduction in sensitivity to headache, while a combination of peppermint, eucalyptus, and ethanol was found to relax muscles and to increase cognitive performance in humans (Göbel et al., 1994).

Lavender: Inhalation of lavender essential oil was found to be more effective than inhalation of a placebo for reducing the severity of headaches in subjects diagnosed with migraine headaches (Sasannejad et al., 2012).

Hearing

see *Ears*

Heart

see *Cardiovascular System:Heart*

Heartburn

see *Digestive System:Heartburn*

Heatstroke

Heatstroke is when the body's temperature rises dangerously high due to the body's inability to dissipate heat, typically because of high environmental temperatures and high levels of exertion. If not corrected, the body can overheat too much, causing organs and body systems to become damaged and possibly shut down—possibly leading to death. Symptoms of heatstroke include perspiration, dizziness, confusion, headaches, and nausea.

Oils: peppermint, lavender

: Dilute as recommended, and apply 3–5 drops on neck and forehead. Cool the body as soon as possible in a cool bathtub, lake, river, or soaked linens.

Hematoma

see also *Blood:Hemorrhaging.*

A hematoma is a collection of blood outside of the blood vessels. The most common form of a hematoma is a bruise. Hematomas can also form into hard, blood-filled sacs that look like welts and can move to different locations. These often dissolve on their own. Hematomas can also form in other organs as the result of injury or hemorrhaging.

Oils: helichrysum

: Dilute as recommended, and apply 1–2 drops on location.

Hemorrhaging

see *Blood:Hemorrhaging*

Hemorrhoids

Hemorrhoids are swollen, twisted veins that occur in the rectum or anus. They are caused by increased pressure within the veins, often due to pregnancy, frequent lifting, or constipation.

Oils: cypress, geranium, clary sage, helichrysum, patchouli, peppermint, sandalwood, juniper berry, frankincense, myrrh

Blend 1: Mix 1 drop cypress with 1 drop of either helichrysum or geranium, and apply on location.

: Dilute as recommended, and apply 1–2 drops on location. Mix 1–2 drops with 1 tsp. fractionated coconut oil, and apply on location using a rectal syringe.

Hepatitis

see *Liver:Hepatitis*

Hernia

see also *Back:Herniated Discs*

A hernia is the protrudence of a tissue or organ through tissue or muscle outside of the body cavity in which it is normally contained. There are several different types of hernias, and the symptoms vary with each type.

—Hiatal:

A hiatal (hiatus) hernia is when a portion of the stomach protrudes through the diaphragm into the chest cavity above. This can cause pain, acid reflux, and heartburn. It can be caused by a birth defect or may be brought on by heavy lifting, stress, or being overweight.

Oils: ⊖basil, ⊖peppermint, ⊖cypress, ⊖ginger, ⊖geranium, ⊖lavender, ⊖fennel, ⊖rosemary

—Incisional:

An incisional hernia is caused by a protrusion through scar tissue from an abdominal wound or incision that hasn't healed correctly.

Oils: ⊖basil, ⊖helichrysum, ⊖lemongrass, ⊖geranium, ⊖lavender, ⊖ginger, ⊖lemon, ⊖melaleuca

—Inguinal:

An inguinal hernia is when the intestines protrude into the inguinal canal (a small opening that leads from the abdominal cavity into the groin area). This can sometimes be seen as a bulge in the groin area and is usually painless, but it may become painful if the blood supply to the herniated portion of the intestine is restricted (strangulated).

Oils: ⊖lemongrass, ⊖lavender

⊖: Dilute as recommended, and apply on location, lower back, and reflex points on the feet.

Herpes Simplex

see also Antiviral

Herpes simplex type 1 and type 2 viruses are the two viruses that cause genital and oral herpes infections. These viruses cause painful outbreaks of blisters and sores to occur in the affected area when the virus is active in the skin or mucus membranes, followed by periods of latency when the virus resides in the nerve cells around the infected area.

Oils: ⊖peppermint○, ⊖melaleuca○, ⊖helichrysum○, ⊖clove○, ⊖lavender, ⊖eucalyptus○, ⊖lemon, ⊖cypress, ⊖rose, ⊖bergamot

⊖: Dilute as recommended, and apply oil directly on the lesions at the first sign of outbreak.

○: **Additional Research:**

Peppermint: Peppermint oil demonstrated a direct virucidal activity against herpes type 1 and type 2 viruses (Schuhmacher et al., 2003).

Melaleuca: Tea tree and eucalyptus oil demonstrated ability to inhibit Herpes simplex virus (Schnitzler et al., 2001).

Helichrysum: Helichrysum was found to have significant antiviral activity against the herpes virus at non-cytotoxic concentrations (Nostro et al., 2003).

Clove: Eugenol was found to be virucidal to Herpes simplex and to delay the development of herpes-induced keratitis (inflammation of the cornea) in mice (Benencia et al., 2000).

Eucalyptus: Tea tree and eucalyptus oil demonstrated ability to inhibit Herpes simplex virus (Schnitzler et al., 2001).

Hiccups/Hiccoughs

Hiccups, or hiccoughs, are the uncontrollable spasms of the diaphragm that cause a sudden intake of breath and the closure of the glottis (the opening that stops substances from entering the trachea while swallowing). Hiccups are thought to be caused either by a lack of carbon dioxide in the blood or by something irritating the diaphragm.

Oils: ⊘⊖sandalwood

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊖: Dilute as recommended, and apply 1–2 drops to the diaphragm area or reflex points on the feet.

High Blood Pressure

See Blood:Blood Pressure:High

Hives

see also Allergies, Antiviral

Hives are itchy patches of inflamed spots on the skin surrounded by redness, typically caused by an allergic reaction or a viral infection.

Oils: ⊖melaleuca○, ⊖peppermint, ⊖lavender○

⊖: Dilute as recommended, and apply 1–2 drops on location. Add 1–2 drops to 1 Tbs. fractionated coconut oil, and massage on location.

○: **Additional Research:**

Melaleuca: Tea tree oil applied to histamine-induced weal and flare in human volunteers was found to decrease the mean weal volume when compared to a control (Koh et al., 2002).

Melaleuca: Tea tree oil applied to histamine-induced edema (swelling) in mice ears was found to significantly reduce swelling (Brand et al., 2002).

Lavender: Lavender oil was found to inhibit immediate-type allergic reactions in mice and rats by inhibiting mast cell degranulation (Kim et al., 1999).

Hodgkin's Disease

see also Cancer

Hodgkin's disease (or Hodgkin's lymphoma) is a type of cancer that affects lymphocytes (white blood cells). It can cause enlarged lymph nodes, fever, sweating, fatigue, and weight loss.

Oils: ⊖clove

⊖: Dilute as recommended, and apply 1–2 drops to the liver, kidney, and reflex points on the feet.

Hormonal System/Imbalance

see *Endocrine System*

Hot Flashes

see *Female Specific Conditions*

Housecleaning

—Bathrooms/Kitchens:

Oils: lemon, white fir (for cleaning and disinfecting)

Other Products: Protective Cleaner to help eliminate microorganisms from household surfaces.

✋: Place a few drops on your cleaning rag or dust cloth; or place 10 drops in a small spray bottle with distilled water, and mist on surfaces before cleaning.

—Carpets:

Oils: lemon, Cleansing Blend

✋: Apply on carpet stains to help remove. To freshen carpet, add 50–70 drops of these (or another favorite oil) to 1/2 cup baking soda. Sprinkle over carpets, wait 15 minutes, and then vacuum.

—Dishes:

Oils: lemon

Other Products: Protective Cleaner to help purify dishes.

✋: Add a couple of drops to dishwater for sparkling dishes and a great smelling kitchen. Can add to dishwasher as well.

—Furniture Polish:

Oils: lemon, white fir, Invigorating Blend, Cleansing Blend

✋: Place a few drops on a clean rag, and use to polish furniture.

—Gum/Grease:

Oils: lemon, lime

✋: Place 1–2 drops on gum or grease to help dissolve.

—Laundry:

Oils: lemon, Cleansing Blend

Other Products: Protective Laundry Detergent to help naturally fight stains and brighten clothes.

✋: Add a few drops of oil to the water in the washer. Add a few drops on a washcloth with clothes in the dryer. Add a few drops to a small spray bottle of water, and mist on laundry in the dryer before drying. Any of these methods can increase the antibacterial benefits and help clothes to smell fresh and clean.

—Mold/Fungus: *see also* *Antifungal:Mold*

Oils: Protective Blend, Cleansing Blend

⊘: Diffuse into the air.

✋: Place a few drops on a cleaning rag, and wipe down the affected area.

—Stains:

Oils: lemon (has been used to remove black shoe polish from carpets)

✋: Apply on location.

Hyperactivity

see *Calming:Hyperactivity*

Hyperpnea

see *Respiratory System:Hyperpnea*

Hypertension

see *Blood:Blood Pressure:High*

Hypoglycemia

Hypoglycemia is a condition of low levels of sugar in the blood. It is most common in people with diabetes but can be caused by drugs or by a tumor in the pancreas that causes the pancreas to create too much insulin. Symptoms of hypoglycemia can include hunger, sweating, weakness, palpitations, shaking, dizziness, and confusion.

Oils: eucalyptus, Protective Blend, cinnamon, clove, thyme

Other Products: Probiotic Defense Formula to help maintain a healthy digestive system.

✋: Dilute as recommended and apply 1–2 drops over pancreas and on reflex points on the feet.

💧: Take capsules as directed on package.

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

Hysteria

see *Calming*

Immune System

see also *Allergies, Antibacterial, Antifungal, Antiviral, Cancer, Lymphatic System, Parasites*

The immune system is the body's defense against disease. The immune system protects the body by identifying and killing bacteria, viruses, parasites, other microorganisms, and tumor cells that would harm the body. The immune system is comprised of several different types of white blood cells (lymphocytes) that recognize, process, or destroy foreign objects, the bone marrow that creates several types of white blood cells, the thymus that creates white blood cells and teaches them to recognize foreign objects and distinguish them from the body's cells, lymphatic vessels that help transport lymph and white blood cells, and several other organs, such as the lymph nodes, tonsils, spleen, and appendix, that filter out foreign objects and serve as a place for white blood cells to gather, interact, and share information about infections.

Oils: ⊖⊘○Protective Blend, ⊖⊘○oregano◌, ⊖⊘melaleuca, ⊖⊘rosemary, ⊖⊘clove, ⊖⊘frankincense, ⊖⊘geranium, ⊖⊘lemon, ⊖⊘thyme, ⊖⊘lavender, ⊖⊘lime

Other Products: ○Protective Softgels, ○Energy & Stamina Complex, ○Cellular Vitality Complex, ○Chewable Multivitamin, ○Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, ○Omega-3 Fish Oil, ○Food Nutrient Complex to provide nutrients essential for healthy immune system function.

—Stimulates:

Oils: ⊖⊘○oregano◌, ⊘cinnamon, ⊖⊘frankincense, ⊖⊘melaleuca, ⊖Protective Blend, ⊖⊘lavender

⊖: Dilute as recommended, and apply 1–2 drops to bottoms of feet, along spine, or under arms (around lymph nodes). Add 1–2 drops to 1 Tbs. fractionated coconut oil, and massage onto back, arms, and feet.

○: Take capsules as recommended. Place 1–2 drops of oil under the tongue or place 2–3 drops in an empty capsule, and swallow.

⊘: Diffuse into the air.

◌: Additional Research:

Oregano: Growth-retarded pigs receiving a supplementation of oregano leaves and flowers enriched with cold-pressed oregano oil were found to have increased growth, decreased mortality, and higher numbers of immune-system cells and compounds when compared to control pigs who did not receive supplementation (Walter et al., 2004).

Impetigo

see *Skin:Impetigo*

Impotence

see *Male Specific Conditions:Impotence*

Incontinence

see *Bladder:Bed Wetting and Incontinence*

Indigestion

see *Digestive System:Indigestion*

Infection

see also *Antibacterial, Antifungal, Antiviral*

Oils: ⊖⊘cinnamon, ⊖⊘clary sage, ⊖⊘Protective Blend, ⊖⊘bergamot, ⊖⊘myrrh (with oregano), ⊖⊘basil, ⊖⊘cypress, ⊖⊘rosemary (with myrrh for oral infection), ⊖⊘thyme (for urinary infection), ⊖⊘lemongrass, ⊖⊘lime, ⊖⊘patchouli, ⊖⊘lavender, ⊖⊘[illegible], ⊖⊘juniper berry, ⊖⊘fennel, ⊖⊘peppermint

Other Products: ○Protective Softgels. ○Food Nutrient Complex for nutrients that help provide immune support.

—Infected Wounds:

Oils: ⊖⊘frankincense, ⊖⊘melaleuca

Blend 1: Apply 1 drop thyme on location with hot compress daily. After infection and pus have been expelled, mix 3 drops lavender, 2 drops melaleuca, and 2 drops thyme combined with 1 tsp. fractionated coconut oil, and apply a little of this mixture on location twice daily.

⊖: Dilute as recommended, and apply 1–2 drops on location. Mix 1–2 drops with 1 Tbs. fractionated coconut oil, and massage on location or on neck, arms, chest, or feet.

⊘: Diffuse into the air. Add 1–2 drops to a bowl of hot water, and inhale the vapors.

○: Take capsules as directed on package.

Infertility

see Female Specific Conditions: Infertility, Male Specific Conditions:Infertility

Inflammation

see also Antioxidant

Inflammation is the body's reaction to infection and injury. It is characterized by redness, swelling, warmth, and pain. Inflammation is an immune system response that allows the body to contain and fight infection or repair damaged tissue by dilating the blood vessels and allowing vascular permeability to increase blood supply to an injured or infected tissue. While a certain amount of inflammation can be beneficial in fighting disease and healing injuries, too much inflammation or chronic inflammation can actually be debilitating.

Oils: frankincense, melaleuca, eucalyptus, oregano, Soothing Blend, lavender, cardamom, patchouli, Roman chamomile, myrrh, rosemary, peppermint, wintergreen, clove, thyme, geranium, helichrysum, Anti-Aging Blend, juniper berry, cedarwood, Calming Blend, lemongrass, cypress

Other products: Cellular Vitality Complex and Food Nutrient Complex or Chewable Multivitamin for polyphenols and other antioxidants to help relieve oxidative stress associated with inflammation. Essential Oil Omega Complex or Vegan Essential Oil Omega Complex or Omega-3 Fish Oil for omega-3 fatty acids that help balance the inflammatory response.

: Dilute as recommended, and apply 1–2 drops on location and on the back of neck by the base of the skull. Add 3–4 drops to 1 Tbs. fractionated coconut oil, and massage on location.

: Place 1–2 drops of oil under the tongue, or place 2–3 drops of in an empty capsule, and swallow. Place 1–2 drops in 8 oz. of rice or almond milk, and drink. Take supplements as directed on package.

: Diffuse into the air. Add 1–2 drops to a bowl of hot water or humidifier, and inhale the vapors to help relieve inflammation within the respiratory system.

: Additional Research:

Frankincense: Alpha-pinene was found to block proinflammatory responses in THP-1 cells (Zhou et al., 2004).

Frankincense: Boswellia frereana extracts were found to inhibit proinflammatory molecules involved in joint cartilage degradation (Blain et al., 2009).

Frankincense: Compounds from Boswellia serrata were found to carry out anti-inflammatory activity by switching off the pro-inflammatory cytokines and mediators that initiate the inflammatory process (Gayathri et al., 2007).

Frankincense: An acetone extract of frankincense was found to decrease arthritic scores, reduce paw edema (swelling), and suppress pro-inflammatory cytokines (cellular messengers) (Fan et al., 2005).

Frankincense: Incensole acetate, isolated from frankincense resin, was found to demonstrate an anti-inflammatory and neuroprotective effect in mice with closed head injuries (Moussaieff et al., 2008).

Melaleuca: Melaleuca alternifolia oil was found to mediate the reactive oxygen species (ROS) production of leukocytes (white blood cells), indicating possible anti-inflammatory activity (Caldefie-Chézet et al., 2004).

Melaleuca: Tea tree oil applied to histamine-induced edema (swelling) in mice ears was found to significantly reduce swelling (Brand et al., 2002).

Melaleuca: Tea tree oil was found to reduce swelling during a contact hypersensitivity response in the skin of mice sensitized to the chemical hapten (Brand et al., 2002).

Melaleuca: Several water-soluble components of tea tree oil were found to suppress the production of superoxide by monocytes (a type of white blood cell involved in the immune system) (Brand et al., 2001).

Melaleuca: The water soluble terpinen-4-ol component of tea tree was found to suppress the production of pro-inflammatory mediators in human monocytes (a type of white blood cell that is part of the human immune system (Hart et al., 2000).

Melaleuca: Inhaled tea tree oil was found to have anti-inflammatory influences on male rats with induced peritoneal inflammation (Golab et al., 2007).

Melaleuca: Tea tree oil applied to histamine-induced weal and flare in human volunteers was found to decrease the mean weal volume when compared to a control (Koh et al., 2002).

Melaleuca: Tea tree oil was found to reduce inflammation in nickel-sensitive human skin exposed to nickel (Pearce et al., 2005).

Eucalyptus: Eucalyptus oil was shown to ameliorate inflammatory processes by interacting with oxygen radicals and interfering with leukocyte activation (Grassmann et al., 2000).

Eucalyptus: 1,8 cineole (eucalyptol) was found to display an anti-inflammatory effect on rats in several tests and was found to exhibit antinociceptive (pain-reducing) effects in mice, possibly by depressing the central nervous system (Santos et al., 2000).

Eucalyptus: Eucalyptus oil was found to have an anti-inflammatory and mucin-inhibitory effect in rats with lipopolysaccharide-induced bronchitis (Lu et al., 2004).

Eucalyptus: Oils of three eucalyptus species (citriodora, tereticornis, and globulus) were found to have analgesic (pain-relieving) and anti-inflammatory properties in rats (Silva et al., 2003).

Eucalyptus: Extracts from eucalyptus and thyme were found to have high nitrous oxide (NO) scavenging abilities and to inhibit NO production in macrophage cells. This could possibly explain their role in aiding respiratory inflammatory diseases (Vigo et al., 2004).

Lavender: Oil from Lavandula angustifolia was found to reduce writhing in induced writhing in rats and to reduce edema (swelling) in carrageenan-induced paw edema, indicating an anti-inflammatory effect (Hajhashemi et al., 2003).

Lavender: Linalool and linalyl acetate (from lavender and other essential oils) were found to exhibit anti-inflammatory activity in rats subjected to carrageenin-induced edema (inflammation) (Peana et al., 2002).

Cardamom: Cardamom essential oil reduced rat paw edema by 76% of the control value, illustrating significant anti-inflammatory activity (al-Zuhair et al., 1996).

Roman Chamomile: Chamazulene, a chemical in chamomile oil, was found to block formation of leukotriene (a signaling chemical involved in the inflammation process) in neutrophilic (immune system) granulocytes (white blood cells containing granules). It also demonstrated an antioxidant effect (Safavhi et al., 1994).

Myrrh: At subtoxic levels, myrrh oil was found to reduce interleukin (chemical signals believed to play a role in the inflammation response) by fibroblast cells in the gums (Tipton et al., 2003).

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

Myrrh: Subtoxic levels of myrrh oil were found to inhibit interleukin (chemical messenger involved in inflammation), in part by inhibiting PGE(2) (Prostaglandin E, a lipid compound that has several messenger functions in the body, including in the inflammatory response) (Tipton et al., 2006).

Rosemary: An ethanol extract of rosemary was found to have an antiproliferative effect on human leukemia and breast carcinoma cells as well as an antioxidant effect (Cheung et al., 2007).

Rosemary: An ethanol extract of rosemary was found to demonstrate antinociceptive (pain blocking) and anti-inflammatory activity in mice and rats (González-Trujano et al., 2007).

Rosemary: Rosemary oil was found to have anti-inflammatory and peripheral-antinociceptive (pain sensitivity blocking) properties in mice (Takaki et al., 2008).

Peppermint: A combination of peppermint and caraway oil was found to reduce visceral hyperalgesia (pain hypersensitivity in the gastrointestinal tract) after induced inflammation in rats (Adam et al., 2006).

Peppermint: L-menthol was found to inhibit production of inflammation mediators in human monocytes (a type of white blood cell involved in the immune response) (Juergens et al., 1998).

Wintergreen: Methyl salicylate (found in wintergreen or birch oils) was found to inhibit leukotriene C4 (a chemical messenger involved in inflammatory response), while also demonstrating a gastroprotective effect against ethanol-induced gastric injury in rats (Trautmann et al., 1991).

Clove: Eugenol (found in clove EO) was found to increase the anti-inflammatory activity of cod liver oil (lowered inflammation by 30%) (Reddy et al., 1994).

Clove: Clove oil was found to increase humoral immunity and decrease cell-mediated immunity in rats, illustrating that clove oil can modulate the immune response and overall acts as an anti-inflammatory agent (Halder et al., 2011).

Thyme: Extracts from eucalyptus and thyme were found to have high nitrous oxide (NO) scavenging abilities and to inhibit NO production in macrophage cells. This could possibly explain their role in aiding respiratory inflammatory diseases (Vigo et al., 2004).

Geranium: Topical application of geranium oil was found to reduce the inflammatory response of neutrophil (white blood cell) accumulation in mice (Maruyama et al., 2005).

Helichrysum: Arzanol, extracted from helichrysum, inhibited HIV-1 replication in T cells and also inhibited the release of pro-inflammatory cytokines (chemical messengers) in monocytes (Appendino et al., 2007).

Cedarwood: *Juniperus virginiana* oil was found to have anti-inflammatory activity in mice (Tumen et al., 2013).

Dill: Oil-based dill extract displayed greater anti-inflammatory activity when topically applied to inflamed rat paws than the anti-inflammatory drug diclofenac (Naseri et al., 2012).

Influenza

see also Antiviral

Influenza, commonly referred to as "the flu," is a highly contagious viral infection of the respiratory system. Influenza is marked by a sudden onset of high fever, dry cough, sore throat, muscle aches and pains, headache, fatigue, loss of appetite, nausea, and nasal congestion.

Oils: ⊘⊖Respiratory Blend, ⊘⊖melaleuca⊖, ⊘⊖Opeppermint, ⊘⊖rosemary, ⊘⊖eucalyptus, ⊖⊘Protective Blend, ⊘⊖white fir (aches/pains), ⊘⊖lavender, ⊘⊖oregano, ⊘⊖thyme, ⊘orange, ⊘⊖clove, O⊘ginger

Other Products: OProtective Softgels. ⊖Protective Hand Wash to help prevent the spread of influenza viruses. OFood Nutrient Complex for nutrients to help support immune function.

⊘: Diffuse into the air.

⊖: Dilute as recommended, and apply to thymus area, chest, back, sinuses, or reflex points on the feet. Add 1–2 drops to hot bathwater, and bathe. Dilute 1–2 drops in 1 Tbs. fractionated coconut oil, and massage on chest, back, and feet.

O: Place 1–2 drops of ginger or peppermint oil in an empty capsule, and swallow to help reduce feelings of nausea. Take supplements as directed on package.

O: **Additional Research:**

Melaleuca: In vitro research has found that *Melaleuca alternifolia* concentrate can disturb the normal viral membrane fusion of the influenza virus and inhibit entry of influenza virus into the host cell (Li et al., 2013).

Injuries

see Bones, Bruises, Cuts, Inflammation, Joints, Muscles/Connective Tissue, Pain, Skin:Scarring, Tissue:Scarring, Wounds

Insects/Bugs

see also Bites/Stings

—Bees, Wasps, and Hornet Stings:

Oils: ⊖Roman chamomile, ⊖basil, ⊖Cleansing Blend, ⊖lavender, ⊖lemongrass, ⊖lemon, ⊖peppermint, ⊖thyme.

Recipe 1: Remove the stinger, and apply a cold compress of Roman chamomile to the area for several hours or as long as possible.

⊖: Dilute as recommended, and apply 1–2 drops on location after making certain that the stinger is removed.

—Gnats and Midges:

Oils: ⊖lavender, ⊖⊘Repellent Blend

Recipe 2: Mix 3 drops thyme in 1 tsp. cider vinegar or lemon juice. Apply to bites to stop irritation.

⊖: Dilute as recommended, and apply 1–2 drops to bite area.

⊘: Diffuse into the air. Place 1–2 drops on small ribbons, strings, or cloth, and hang around area to help repel mosquitoes.

—Itching:

Oils: lavender

: Dilute as recommended, and apply 1–2 drops to affected area.

—Lice:

Oils: eucalyptus, Repellent Blend, rosemary, melaleuca, geranium, lemon, lavender

: Dilute as recommended, and rub 1–2 drops into the scalp three times a day, and apply to feet.

—Mosquitoes:

Oils: Repellent Blend, patchouli, lavender, helichrysum

: Dilute as recommended, and apply 1–2 drops to feet and exposed skin. Add 3–5 drops to 1 Tbs. fractionated coconut oil, and apply to exposed skin. Add 2–3 drops to 1–2 oz. distilled water in a small spray bottle; shake well, and mist onto the skin or into small openings where bugs may come through.

: Diffuse into the air. Place 1–2 drops on small ribbons, strings, or cloth, and hang around area to help repel mosquitoes.

—Repellent:

Oils: Repellent Blend, patchouli, basil, lavender, lemongrass, cedarwood, eucalyptus, arborvitae, thyme, Cleansing Blend

Blend 1: Combine 5 drops lavender, 5 drops lemongrass, 3 drops peppermint, and 1 drop thyme. Place neat on feet. Add to 1 cup (8 oz.) of water, and spray on using a fine-mist spray bottle. Or place drops of this blend on ribbons or strings and tie near windows or around picnic or camping area.

Blend 2: Combine equal parts clove, lemon, and orange, and apply 2–3 drops on skin.

Blend 3: Place 5 drops lemon and 5 drops Cleansing Blend in a small spray bottle with distilled water. Shake well, and mist on your skin to help protect against insects, flies, and mosquitoes.

: Dilute as recommended, and apply 1–2 drops to feet and exposed skin. Add 3–5 drops to 1 Tbs. fractionated coconut oil, and apply to exposed skin. Add 2–3 drops to 1–2 oz. distilled water in a small spray bottle; shake well, and mist onto the skin or into small openings where bugs may come through.

: Diffuse into the air. Place 1–2 drops on small ribbons, strings, or cloth, and hang around area to help repel insects.

—Spiders:

Oils: basil, Cleansing Blend (with melaleuca), lavender, lemongrass, lemon, peppermint, thyme

: Dilute as recommended, and apply 1–2 drops to affected area. Apply oil as a cold compress.

—Termites:

Oils: patchouli, vetiver (repels), clove (kills)

: Apply oils around foundation and to soil around wood structures to help repel termites.

: Diffuse into the air.

—Ticks:

Oils: Repellent Blend, lavender

Removing Ticks:

Do not apply mineral oil, Vaseline, or anything else to remove the tick as this may cause it to inject the spirochetes into the wound.

Be sure to remove the entire tick. Get as close to the mouth as possible, and firmly tug on the tick until it releases its grip. Don't twist. If available, use a magnifying glass to make sure that you have removed the entire tick.

Save the tick in a jar, and label it with the date, where you were bitten on your body, and the location or address where you were bitten for proper identification by your doctor, especially if you develop any symptoms.

Do not handle the tick.

Wash hands immediately.

Check the site of the bite occasionally to see if any rash develops. If it does, seek medical advice promptly.

: After getting the tick out, apply 1 drop lavender every 5 minutes for 30 minutes.

: **Additional Research:**

Melaleuca: Tea tree oil was found to be effective against both lice and dust mites in a mite chamber assay (Williamson et al., 2007).

Melaleuca: Tea tree oil was found to prevent some blood feeding by lice on treated skin; and while not highly effective at the studied dosages, tea tree oil was found to be more effective than DEET at repelling head lice (Canyon et al., 2007).

Patchouli: Clove, citronella, and patchouli oils were found to effectively repel 3 species of mosquitoes (Trongtokit et al., 2005).

Lavender: An infestation of the red bud borer pest was reduced by more than 95% in the grafted buds of apple trees by application of the essential oil of Lavandula angustifolia (van Tol et al., 2007).

Lavender: Lavender oil was found to be comparable to DEET in its ability to repel ticks (Hyalomma marginatum) (Mkolo et al., 2007).

Eucalyptus: Researchers found that an 8% eucalyptus oil spray was the most effective treatment (when compared against other concentrations of eucalyptus and clove oil sprays) against lice and insecticide-resistant head lice (Choi et al., 2010).

Patchouli: Both patchouli oil and its constituent, patchouli alcohol (patchoulol), were found to be repellent and insecticidal to Formosan termites when applied topically (Zhu et al., 2003).

Vetiver: Vetiver oil was found to repel termites and to prevent tunneling (with long-lasting effects), while clove oil was found to be highly termiticidal (Zhu et al., 2001).

Clove: Vetiver oil was found to repel termites and to prevent tunneling (with long-lasting effects), while clove oil was found to be highly termiticidal (Zhu et al., 2001).

Lavender: Lavender oil was found to be comparable to DEET in its ability to repel ticks (Hyalomma marginatum) (Mkolo et al., 2007).

Cedarwood: Cedarwood was found to possess highly insecticidal activity against adult mosquitos and other household insects (Singh et al., 1984).

Cassia: Cassia oil and its components were found to repel adult female mosquitoes for about 50 minutes post-application when applied to human subjects (Chang et al., 2006).

Geranium: A sesquiterpene alcohol from geranium essential oil proved to be an effective repellant of the lone star tick (*Amblyomma americanum*) and at concentrations greater than 0.052 mg the oil was comparable to the repellant capability of DEET (Tabanca et al., 2013).

Grapefruit: Nootkatone, found in grapefruit essential oil, was found to be toxic to four tick species (Flor-Weiler et al., 2011).

Insomnia

Insomnia is difficulty falling or staying asleep. It can be triggered by stress, medications, drug or alcohol use, anxiety, or depression.

Oils: ⊘⊖lavender○, ⊘⊖orange○, ⊘⊖Calming Blend, ⊘⊖Roman chamomile, ⊘⊖cypress, ⊘⊖ylang ylang, ⊘⊖Invigorating Blend, ⊘⊖marjoram, ⊘⊖lemon, ⊘⊖rosemary, ⊘⊖sandalwood, ⊘⊖clary sage, ⊘⊖bergamot

Blend 1: Combine 6 drops Invigorating Blend with 6 drops lavender. Apply blend to big toes, bottoms of the feet, 2 drops around the navel, and 3 drops on the back of the neck.

Recipe 1: Combine 2 drops Roman chamomile, 6 drops geranium, 3 drops lemon, and 4 drops sandalwood. Add 6 drops of this blend to your bath at bedtime, and combine 5 drops with 2 tsp. fractionated coconut oil for a massage after the bath.

—For Children:

–1–5 years:

Oils: ⊘lavender, ⊘Roman chamomile

–5+ years:

Oils: ⊘⊖clary sage, ⊘⊖geranium, ⊘⊖ylang ylang

⊘: Diffuse into the air. Dissolve 3 drops essential oil in 1 tsp. pure grain alcohol (such as vodka) or perfumers alcohol, and combine with distilled water in a 2 oz. spray bottle; shake well, and spray into the air before sleep. Place 1–2 drops on bottom of pillow or stuffed animal.

⊖: Dilute as recommended, and apply 1–2 drops on feet and back of neck. Combine 1–2 drops essential oil with 1 Tbs. fractionated coconut oil, and massage onto back, legs, feet, and arms.

: Additional Research:

Lavender: Female students suffering from insomnia were found to sleep better and to have a lower level of depression during weeks they used a lavender fragrance when compared to weeks they did not use a lavender fragrance (Lee et al., 2006).

Lavender: Twenty-four sessions of lavender essential oil aromatherapy was found to improve sleep quality in midlife women with insomnia up to one week after the end of the intervention when compared to the control group (Chien et al., 2012).

Orange: Bitter orange peel oil taken orally by mice was found to reduce anxiety, increase sleeping time, and increase the time before a chemically-induced seizure started (Carvalho-Freitas et al., 2002).

Intestinal Problems

see Digestive System

Invigorating

Oils: ⊘⊘wintergreen, ⊘⊘eucalyptus, ⊘⊘peppermint

⊖: Dilute as recommended, and apply 1–2 drops to back of neck or temples.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Irritability

see Calming

Irritable Bowel Syndrome

see Digestive System

Itching

Itching is a tingling or irritation of the skin that produces a desire to scratch. Itching can be brought on by many factors including stress, bug bites, sunburns, allergic reactions, infections, and dry skin.

Oils: lavender, Calming Blend, peppermint

: Dilute as recommended, and apply 1–2 drops on location and on ears. Add 2–3 drops to 1 Tbs. fractionated coconut oil, and apply a small amount on location.

Jaundice

Jaundice is a condition characterized by a yellow appearance of the skin and the whites of the eyes. Jaundice is a result of excessive levels in the blood of a chemical called bilirubin. Bilirubin is a pigment that is made when hemoglobin from old or dead red blood cells is broken down. Jaundice occurs when the liver is unable to pass bilirubin from the body as fast as it is being produced. Jaundice is often a symptom of other diseases or conditions.

Oils: geranium, lemon, rosemary

: Dilute as recommended, and apply 1–2 drops to liver area, abdomen, and reflex points on the feet.

: Diffuse into the air.

Jet Lag

see also Insomnia

Jet lag is the disruption of normal sleep patterns experienced while the body's internal clock adjusts to rapid changes in daylight and nighttime hours when flying to different areas of the world. Jet lag can cause tiredness, fatigue, and insomnia during normal sleeping hours. It is recommended to drink lots of fluids and to avoid alcohol or caffeine while flying to help prevent jet lag. Avoiding naps and forcing yourself to stay awake until your normal bedtime the first day can also help the body recover more quickly.

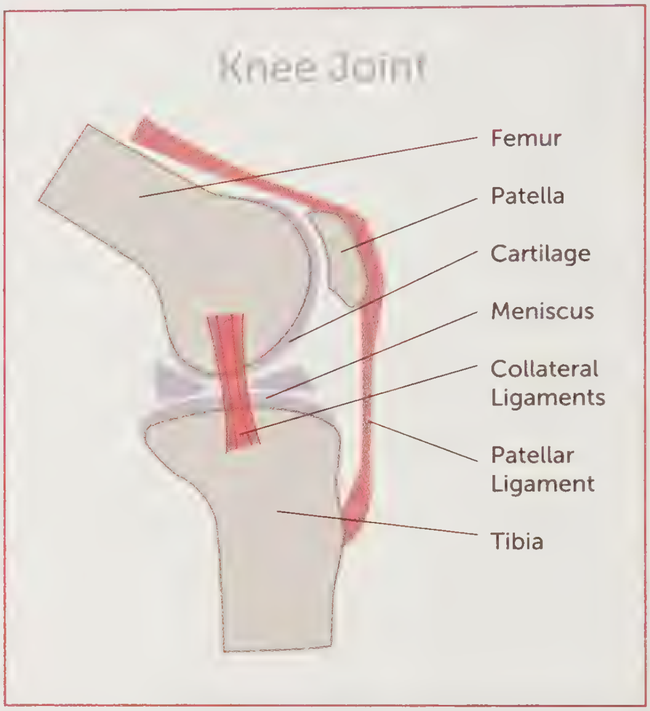
Oils: Grounding Blend, peppermint, eucalyptus, geranium, lavender, grapefruit, lemongrass

: Use invigorating oils such as peppermint and eucalyptus in the morning and calming oils such as lavender and geranium at night. Dilute as recommended, and apply 1–2 drops to temples, thymus, lower back, and bottoms of feet. Add 2–3 drops to 1 Tbs. fractionated coconut oil, and massage onto back, legs, shoulders, and feet. Add 1–2 drops to warm bathwater, and bathe.

Joints

see also Arthritis, Bones, Inflammation, Muscles/Connective Tissue

A joint is an area where two bones come together. Joints can offer limited or no movement between the bones (such as in the skull) or can offer a wide range of motion (such as in the shoulders, hands, and knees).



Oils: Soothing Blend, wintergreen, Roman chamomile (inflammation)

Other Products: Soothing Blend Rub and Soothing Polyphenol Complex to help comfort joint stiffness and soreness.

—Rotator Cuff (sore):

The rotator cuff is the group of muscles and tendons that connect and hold the upper arm in the shoulder joint. The rotator cuff can become sore due to repetitive stressful shoulder motions or injury.

Oils: wintergreen, Soothing Blend, lemongrass, peppermint, white fir

Other Products: Soothing Rub and Soothing Polyphenol Complex to help comfort joint stiffness and soreness.

—Shoulder (frozen): *see also* Inflammation

A frozen shoulder refers to a condition where the range of motion of the shoulder is severely limited and painful. This can be caused by inflammation, stiffness, abnormal tissue growth within the joint capsule (connective tissue that helps cushion, lubricate, and protect the joint) around the shoulder, arthritis, or inflammation of the bursa (small fluid-filled sacs that cushions muscle, ligament, and tendon tissue from the bones as they move across them). These conditions can be extremely painful and can take a long time to heal.

Oils: ✋Soothing Blend, ✋white fir, ✋lemongrass, ✋basil, ✋wintergreen, ✋oregano, ✋peppermint

Other Products: ✋Soothing Rub and 💧Soothing Polyphenol Complex to help comfort joint stiffness and soreness.

Regimen 1: Begin by applying 1–2 drops of white fir to the shoulder reflex point on the foot on the same side as the frozen shoulder to help with any inflammation. Check for any improvement in pain and/or range of motion. Repeat these steps using lemongrass (for torn or pulled ligaments), basil (for muscle spasms), and wintergreen (for bone problems). After determining which of these oils gets the best results for improving pain and/or range of motion, apply 1–2 drops of the oil (or oils) to the shoulder. Then apply 1–2 drops of peppermint (to help soothe the nerves) and 1–2 drops oregano (to help enhance muscle flexibility). Finally, apply white fir to the opposite shoulder to create balance as it compensates for the sore one. Drink lots of water.

—Tennis Elbow:

Tennis elbow (epicondylitis) is an injury to the tendons that connect the humerus bone near the elbow to the muscles that pull the hand backwards (lateral) and forward (medial) at the wrist. This type of injury is often associated with the repetitive forehand and backhand motions of playing tennis but can be caused by other activities that stress these tendons as well.

Oils: ✋Soothing Blend, ✋eucalyptus, ✋peppermint, ✋helichrysum, ✋wintergreen, ✋rosemary, ✋lemongrass

Other Products: ✋Soothing Rub and 💧Soothing Polyphenol Complex to help comfort joint stiffness and soreness.

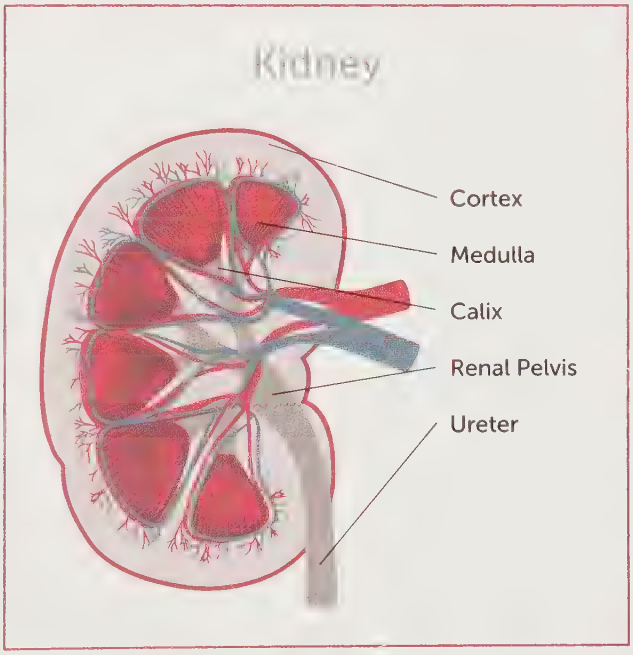
Blend 1: Combine 10 drops eucalyptus, 10 drops peppermint, 10 drops rosemary, and 1 Tbs. fractionated coconut oil. Apply on location; then apply an ice pack. Can also try alternating cold and hot packs.

Blend 2: Combine 1 drop each of lemongrass, helichrysum, marjoram, and peppermint. Apply on location; then apply an ice pack.

✋: Dilute as recommended, and apply 1–2 drops on location or on reflex points on the feet. Combine 5–10 drops with 1 Tbs. fractionated coconut oil, and massage on location.

Kidneys

The kidneys are paired organs located just below the rib cage on either side of the spine that function to filter waste and extra water from the blood. The kidneys convert the waste and extra water into urine that is then excreted through urination. The kidneys also play an important role in hormone production.



Oils: ✋lemongrass, 💧thyme◎, 💧Detoxification Blend, 💧bergamot◎, ✋juniper berry, ✋grapefruit, ✋geranium, ✋clary sage

Other Products: 💧Essential Oil Omega Complex or Vegan Essential Oil Omega Complex or 💧Omega-3 Fish Oil to provide omega-3 fatty acids that help support kidney function. Detoxification Complex to help support healthy kidney functioning.

: Dilute as recommended, and apply to kidneys and reflex points on the feet. Apply as a hot compress.

: Take capsules as directed on package. Add 1–2 drops of essential oil to an empty capsule; swallow capsule.

—Diuretic: *see* *Diuretic*

—Infection:

Kidney infections occur when bacteria enters the urinary tract. They are marked by fever, abdominal pain, chills, painful urination, dull kidney pain, nausea, vomiting, and a general feeling of discomfort.

Oils: rosemary

: Dilute as recommended, and apply to kidneys and reflex points on the feet.

: Drink 1 gallon of distilled water and 2 quarts cranberry juice in one day.

—Inflammation (nephritis):

: Drink 1 gallon of distilled water and 2 quarts cranberry juice in one day.

—Kidney Stones:

A kidney stone is a solid piece of material that forms as chemicals in the urine crystallize and adhere together in the kidney. Small stones may pass through urination without causing pain. Larger stones with sharp edges and corners, however, can cause an extreme amount of pain as they are passed out of the body through the urinary tract.

Oils: lemon, eucalyptus, juniper berry

: Apply as a hot compress over kidneys. Dilute as recommended, and apply 1–2 drops on location.

: Add 1–2 drops oil to 8 oz. of water, and drink. To help pass a stone, drink 4 oz. distilled water with juice from 1/2 lemon every 30 minutes for 6 hours; then take 2 Tbs. extra-light virgin olive oil with the juice from 1 full lemon, and repeat daily until stone passes. Drinking plenty of water can help prevent the formation of kidney stones.

: **Additional Research:**

Thyme: Older rats whose diets were supplemented with thyme oil were found to have a higher level of the antioxidant enzymes superoxide dismutase and glutathione peroxidase in the heart, liver, and kidneys than did older rats without this supplementation (Youdim et al., 1999).

Bergamot: The antioxidant activity of bergamot juice was found to have protective action against renal (kidney) injury of diet-induced hypercholesterolemia in rats (Trovato et al., 2010).

Knee Cartilage Injury

see *Muscles/Connective Tissue:Cartilage Injury*

Labor

see *Pregnancy/Motherhood:Labor*

Lactation

see *Pregnancy/Motherhood:Lactation*

Lactose Intolerance

Lactose intolerance is the inability of the body to fully digest lactose, a sugar found in milk and in other dairy products. Symptoms of lactose intolerance include abdominal pain and bloating, diarrhea, nausea, and gas.

Oils: lemongrass

: Add 1–2 drops to 1 tsp. honey, and swallow; or add 1–2 drops to 4 oz. rice or almond milk, and drink. Place 1–2 drops in an empty capsule, and swallow.

: Dilute as recommended, and apply 1–2 drops on abdomen or reflex points on the feet.

Laryngitis

see also *Allergies, Antiviral*

Laryngitis is an inflammation and swelling of the voice box (called the larynx) that causes the voice to sound hoarse or raspy. Laryngitis is most commonly caused by viruses, allergies, or overuse of the voice and will generally go away by itself within two weeks.

Oils: sandalwood, frankincense, thyme, lavender

: Diffuse into the air.

: Dilute as recommended, and apply to neck and reflex points on the feet.

Laundry

see *Housecleaning:Laundry*

Leukemia

see Cancer:Leukemia

Libido

see Sexual Issues:Libido

Lice

see Insects/Bugs:Lice

Ligaments

see Muscles/Connective Tissue:Ligaments

Lipoma

see Tumor:Lipoma

Lips

Oils: ⊖lavender, ⊖melaleuca, ⊖lemon

—Dry lips:

Blend 1: Combine 2–5 drops geranium with 2–5 drops lavender. Apply 1–2 drops on lips.

⊖: Dilute as recommended, and apply 1 drop on lips. Combine 1–2 drops essential oil with 1 Tbs. fractionated coconut oil, and apply a small amount to lips.

Liver

The liver is the largest internal organ of the body. It is located in the upper abdomen and helps with digestion, produces cholesterol used to make several hormones and cellular membranes, removes waste products and old cells from the blood, and metabolizes harmful substances and toxins into harmless chemicals. The liver also has amazing regenerative abilities. Left with as little as 25% of its original mass, the liver can regrow what was lost and return to normal size.

Oils: ⊖⊘geranium, ⊖helichrysum, ⊖○Digestive Blend, ○cilantro, ○rosemary, ○ginger, ⊖cypress, ⊖⊘○grapefruit, ○Detoxification Blend, ⊖○myrrh, ⊖⊘Calming Blend, ⊖⊘Roman chamomile

Other Products: ○Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, ○Omega-3 Fish Oil, ○Cellular Vitality Complex, ○Food Nutrient Complex, ○Chewable Multivitamin for omega-3 fatty acids and other nutrients that help support healthy liver cell functions. ○Detoxification Complex to help support healthy liver functioning.

—Cirrhosis:

Cirrhosis is scarring of the liver that occurs as the liver tries to repair damage done to itself. When extensive liver damage occurs, the massive scar tissue buildup makes it impossible for the liver to function. The most common causes of cirrhosis are fatty liver (resulting from obesity or diabetes) and alcohol abuse; but any damage done to the liver can cause cirrhosis.

Oils: ⊖⊘frankincense, ⊖⊘myrrh, ⊖⊘geranium, ⊖⊘rosemary, ⊖⊘juniper berry, ⊖⊘rose, ⊖⊘Roman chamomile

—Cleansing:

Oils: ⊖⊘clove, ⊖⊘geranium, ⊖⊘helichrysum, ⊖⊘myrrh

—Hepatitis: *see also* Antiviral.

Hepatitis is any swelling or inflammation of the liver. This can interfere with normal liver functioning and can possibly lead to cirrhosis or cancer over time. The most common cause of hepatitis is from one of the five different forms of hepatitis viruses, but it can also be caused by alcohol consumption, other viruses, or medications. Possible symptoms of hepatitis include diarrhea, jaundice, stomach pain, loss of appetite, dark-colored urine, pale bowel movements, nausea, and vomiting.

Oils: ⊖⊘myrrh, ⊖⊘melaleuca, ⊖⊘frankincense, ⊖cypress, ⊖⊘rosemary, ⊖⊘oregano, ⊖⊘thyme, ⊖⊘basil, ⊖⊘cinnamon, ⊖⊘eucalyptus, ⊖⊘peppermint

–Viral:

Oils: ○⊖myrrh, ⊖⊘rosemary, ⊖⊘basil

Other Products: ○Probiotic Defense Formula to help maintain friendly intestinal flora that help prevent toxins from pathogenic bacteria and viruses.

—Jaundice: *see* Jaundice

—Stimulant:

Oils: ⊖⊘helichrysum

⊖: Dilute as recommended, and apply 1–2 drops over liver area and on reflex points on the feet. Apply

1–2 drops on spine and liver area for viral infections. Apply as a warm compress over the liver area.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Take capsules as directed on package. Add 1–2 drops essential oil to an empty capsule; swallow capsule.

: **Additional Research:**

Frankincense: A methanol extract of Boswellia carterii was found to have a high inhibition rate of hepatitis C virus protease (Hussein et al., 2000).

Cypress: Oral administration of cypress methanolic extract displayed preventive action against CCl4-induced hepatotoxicity in rats. These results suggest that the antioxidant activity of the flavonoid content of cypress could have potential use as a treatment for liver diseases (Ali et al., 2010).

Cilantro: Ethanolic extract of the cilantro leaf was found to protect against carbon tetrachloride induced liver injury in rats, validating its use as a liver protective agent (Pandey et al., 2011).

Cilantro: In rat livers, the antioxidant activity of cilantro leaves improved the adverse effect of the repeated administration of a potent liver toxin (Moustafa et al., 2012).

Rosemary: Daily administration of rosemary essential oil displayed a protective effect against chemical-induced liver injury in rats (Ra Kovi et al., 2014).

Ginger: Daily oral administration of ginger (*Z. officinale R.*) essential oil and isolated citral (the main constituent of ginger essential oil) displayed preventative effects on the formation alcohol fatty liver disease in mice administered an alcoholic liquid diet for four weeks (Liu et al., 2013).

Loss of Smell

see Nose:Olfactory Loss

Lou Gehrig's Disease

Lou Gehrig's disease (also known as amyotrophic lateral sclerosis) is a progressive and fatal neurological disease that affects nerve cells in the brain and spinal cord. As the disease progresses, motor neurons die and the brain loses its ability to control muscle movement. Later stages of the disease can lead to complete paralysis. Eventually, control is loss of the muscles needed to breathe, to speak, and to eat.

Oils: cypress, Grounding Blend, frankincense, sandalwood, Calming Blend, geranium, rosemary, thyme

Other Products: Essential Oil Omega Complex or Vegan Essential Oil Omega Complex or Omega-3 Fish Oil for omega fatty acids essential for nerve cell function.

: Dilute as recommended, and apply 1–2 drops on brain stem, neck, spine, and reflex points on the feet. Add 1–2 drops to 1 Tbs. fractionated coconut oil, and apply on back, neck, and feet.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Take capsules as directed on package.

Lumbago

see Back:Lumbago/Lower Back Pain

Lungs

see Respiratory System:Lungs

Lupus

Lupus is an autoimmune disease that occurs when the immune system begins attacking its own tissues and organs. Lupus can cause pain, damage, and inflammation in the joints, blood vessels, skin, and organs. Common symptoms include joint pain or swelling, fever, muscle pain, and red rashes (often on the face). Lupus is more common in women than in men.

Oils: clove, Joyful Blend, Protective Blend, Grounding Blend, melissa

: Dilute as recommended, and apply 1–2 drops on adrenal glands, under the arms, on neck, or on bottoms of the feet.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Lymphatic System

see also Immune System

The lymphatic system is made up of the tissues and organs (bone marrow, thymus, spleen, lymph nodes, etc.) that produce and store the cells used to fight infection and disease. The lymphatic system transports immune cells through a fluid called lymph.

Oils: cypress, sandalwood, Digestive Blend

Blend 1: Combine 5 drops Roman chamomile, 5 drops lavender, and 5 drops orange with 2 Tbs. fractionated coconut oil, and massage onto the skin over lymph nodes.

Other Products: Cellular Vitality Complex, Chewable Multivitamin, Essential Oil Omega Complex or Vegan Essential Oil Omega Complex or Omega-3 Fish Oil, and Food Nutrient Complex for nutrients that help support healthy immune function.

—Cleansing:

Oils: ⊘⊖lemon, ⊖⊘lime

—Decongestant For:

Oils: ⊘⊖cypress, ⊖⊘grapefruit, ⊘⊖Invigorating Blend, ⊖⊘lemongrass, ⊖helichrysum, ⊘⊖orange, ⊖⊘rosemary, ⊖⊘thyme

—Drainage Of:

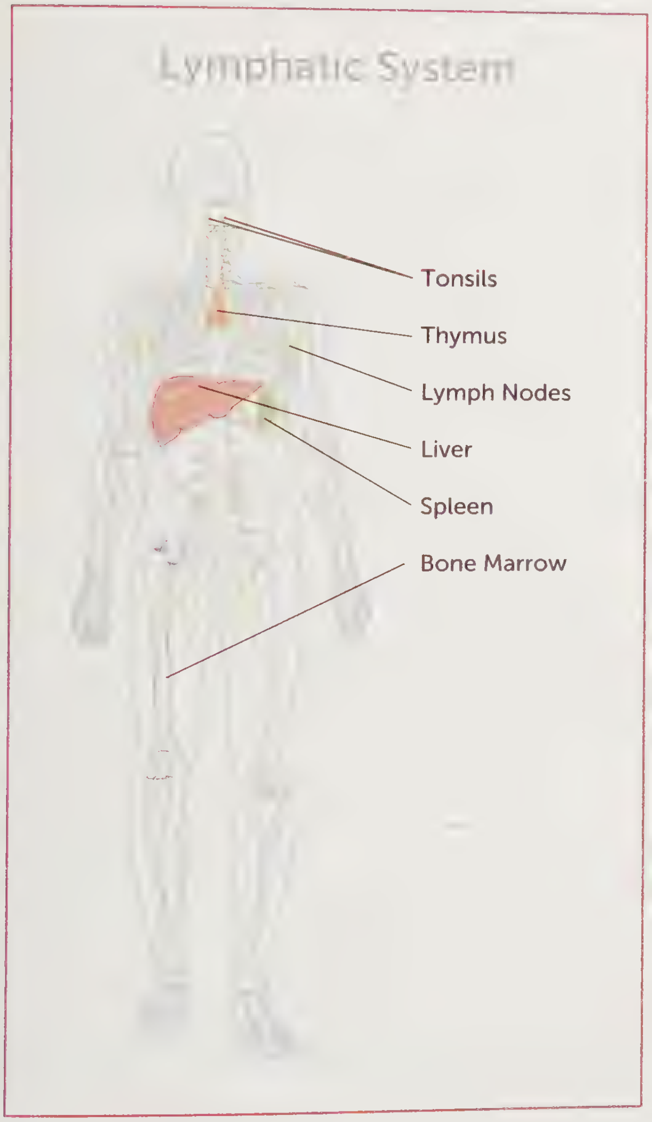
Oils: ⊖helichrysum, ⊖⊘lemongrass

—Eliminates Waste Through:

Oils: ⊖⊘lavender

—Increase Function of:

Oils: ⊘⊖lemon



⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊖: Dilute as recommended, and apply 1–2 drops on neck, arms, thyroid area, and reflex points on the feet. Add 1–2 drops to warm bathwater, and bathe.

○: Take capsules as directed on package.

Malaria

Malaria is a disease caused by single-celled *Plasmodium* parasites. These parasites are spread by mosquitoes from one infected person to another. Symptoms of malaria include light-headedness, shortness of breath, fever, chills, nausea, and, in some cases, coma and death. The best way to prevent malaria is to avoid being bit by using mosquito repellent and mosquito nets, especially between dusk and dawn, in areas of the world where malaria is common.

Oils: ⊖⊘Repellent Blend, ⊖⊘eucalyptus, ⊖⊘lemongrass, ⊖⊘lavender, ○lemon

⊖: Dilute as recommended, and apply 1–2 drops to feet and exposed skin. Add 3–5 drops to 1 Tbs. fractionated coconut oil, and apply to exposed skin. Add 2–3 drops to 1–2 oz. distilled water in a small spray bottle; shake well, and mist onto the skin or into small openings where bugs may come through.

⊘: Diffuse into the air. Place 1–2 drops on small ribbons, strings, or cloth, and hang around area to help repel mosquitoes.

○: Mix 1–2 drops lemon with 1 tsp. honey and 8 oz. distilled water, and drink.

: **Additional Research:**

Eucalyptus: A eucalyptus-based repellent containing p-menthane-3,8-diol as the active ingredient was found to be as effective as DEET in repelling the mosquito commonly known to carry a deadly malaria disease (complete protection for 6–7.75 hours) (Trigg, 1996).

Male Specific Conditions/Issues

—Genital Area

–Infection:

Oils: ⊖melaleuca, ⊖oregano, ⊖eucalyptus, ⊖lavender

–Inflammation:

Oils: ⊖lavender, ⊖Roman chamomile

–Swelling:

Oils: cypress, lavender, rosemary, eucalyptus

–Impotence:

Impotence, also known as erectile dysfunction, is the frequent inability to have or sustain an erection. This may be caused by circulation problems, nerve problems, low levels of testosterone, medications, or psychological stresses.

Oils: clary sage, cassia, clove, ginger, dill, sandalwood

–Infertility:

Infertility is clinically defined as the inability to achieve pregnancy after a year of trying.

Oils: basil, clary sage, thyme, geranium, cinnamon

–Jock Itch: *see also* *Antifungal:Ringworm*

Jock itch is a type of fungal infection that infects the skin of the genital area, causing itching or painful red patches of skin. It occurs more often during warm weather.

Oils: melaleuca, lavender, cypress

Recipe 1: Place 2 drops of any of the above oils in 1 tsp. fractionated coconut oil, and apply to area morning and night. Alternately, place 2 drops oil in a small bowl of water, and wash the area with the water and then dry well each morning and night.

: Dilute as recommended, and apply 1–2 drops on location or on reflex points on the feet. Dilute 1–2 drops in 1 Tbs. fractionated coconut oil, and massage on location. Add 1–2 drops essential oil to warm water, and bathe.

: Place 1–2 drops in an empty capsule, and swallow.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Additional Research:

Cassia: Methanol extract of cassia was found to effectively manage sexual dysfunction in aged rats (Goswami et al., 2013).

Dill: Male mice internally administered low doses of dill extracts displayed a short-term increase in mounting frequency and an enhanced protein phosphorylation level in testicular lysate, suggesting that low doses of dill enhances aphrodisiac activity in males and may be beneficial in treating male sexual dysfunction (Iamsaard et al., 2013). (It should be noted that high doses of dill extract have been shown to decrease fertility in male rats, but no significant difference in sperm count, sperm motility, or testosterone concentrations occur (Monsefi et al., 2011).)

Geranium: Male mice exposed to a harmful insecticide, known to cause sperm damage, were successfully treated with geranium essential oil through its antioxidant effects. Compared to the control group, the oral administration of geranium oil prevented testicular oxidative damage, reduced lipid peroxidation, and improved total sperm motility, viability, and morphology in mice spermatozoa (Slima et al., 2013).

Cinnamon: Cinnamon bark essential oil was found to have a protective effect against damages in male rat reproductive organs and cells induced by carbon tetrachloride (a common toxic substance) (Yüce et al., 2014).

Cassia: Methanol extract of Cinnamonum cassia was found to increase the sexual function of young male rats (Goswami et al., 2014).

Massage

For oils that can be used of an aromatic massage for a specific purpose, see also *Anxiety, Arthritis, Asthma, Back, Bones, Calming, Cardiovascular System, Cooling Oils, Edema, Energy, Fever, Foot, Hair, Hands, Headaches, Inflammation, Invigorating, Joints, Lymphatic System, Muscles/Connective Tissue, Nervous System, Pain, Pregnancy/Motherhood, Respiratory System, Skin, Sleep, Stress, Tissue, Uplifting, Warming Oils*

Massage is the manipulation of the soft tissues in the body through holding, moving, compressing, or stroking. Massage can be done to help aid circulation, relax muscles, relieve pain, reduce swelling, speed healing after strains and sprains, restore function to the body, and release tension and stress.

Oils: Massage Blend—a blend specifically created to aid in therapeutic massage to relax and soothe muscles, to increase circulation, and to stimulate tissues. See other conditions for specific oils that can be used to create a massage oil for that condition.

Other Products: Soothing Rub and Soothing Polyphenol Complex to help soothe tired, achy, and sore muscles and improve circulation within the tissue.

Blend 1: Combine 5 drops Roman chamomile, 5 drops lavender, and 5 drops orange with 2 Tbs. fractionated coconut oil, and use as massage oil for a relaxing massage.

: Add 1–10 drops of essential oil to 1 Tbs. fractionated coconut oil or another carrier oil such as almond, olive, jojoba, sesame seed, or flaxseed to create a massage oil. *See also the section on the Aroma Massage Technique in the Science and Application of Essential Oils section of this book.*

Measles

see *Childhood Diseases:Measles*

Melanoma

see ***Cancer:Skin/Melanoma***

Memory

see also ***Alzheimer's Disease***

Memory is the mental capacity to retain and recall facts, events, past experiences, and impressions. Memory retention can be enhanced by memory exercises, adequate sleep, and associations with previous knowledge. Aroma also plays a role in memory. At least one study has indicated that individuals exposed to an aroma while learning had an easier time remembering what they had learned when exposed to the same aroma, while those who were exposed to a differing aroma had a more difficult time remembering what they had learned .

Oils: rosemary, peppermint, frankincense, basil, Invigorating Blend, clove, lemon, juniper berry, cedarwood, ginger, grapefruit, lime, bergamot, rose, dill, lavender, lemongrass

Other Products: Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Omega-3 Fish Oil, Food Nutrient Complex for omega-3 fatty acids and other nutrients essential to brain cell health.

—Improve:

Oils: clove, clary sage

—Stimulate:

Oils: rosemary

Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale. Wear as a perfume or cologne.

Dilute as recommended, and apply 1–2 drops on temples or back of neck.

Take capsules as directed on package.

Additional Research:

Subjects who had learned a list of 24 words when exposed to an odor had an easier time relearning the list when exposed to the same odor compared to those who were exposed to an alternate odor (Smith et al., 1992).

Rosemary: Volunteers completing a battery of tests were found to be more content when exposed to lavender and rosemary aromas. Rosemary aroma also was found to enhance quality of memory compared to control (Moss et al., 2003).

Peppermint: In human trials, the aroma of peppermint was found to enhance memory and to increase alertness (Moss et al., 2008).

Basil: A study evaluating memory retention and retrieval of mice revealed that the hydroalcoholic extract of Ocimum basilicum significantly increased memory retention and retrieval. The memory enhancing effects were attributed to the antioxidant activity of flavonoids, tannins and terpenoids in the basil extract (Sarahroodi et al., 2012).

Clove: Administration of clove essential oil for three weeks before treatment with scopolamine (a known agent causing memory impairment) was shown to significantly reverse the scopolamine-induced memory deficit, when compared to pretreatment with saline only (Halder et al., 2011).

Rose: Oral administration of Rosa damascena extract for one month was found to enhance adult neurogenesis, hippocampal volume, and synaptic plasticity, as well as reverse the amyloid-β-associated memory abnormalities in a rat model of amyloid-β-induced Alzheimer's disease. These results indicate that rose extract may have memory-enhancing ability (Esfandiary et al., 2014).

Dill: A combined extract of *Cissampelos pareira* and *Anethum graveolens* was found to produce cognitive-enhancing and neuroprotective effects on spatial memory in memory deficit induced rats (Thukham-Mee et al., 2012).

Menopause

see ***Female Specific Conditions:Menopause***

Menstruation

see ***Female Specific Conditions:Menstruation***

Mental

see ***Alertness, Brain, Energy, Memory, Stress***

Metabolism

Metabolism refers to the processes involved in converting ingested nutrients into substances that can be used within the cells of the body for energy or to create needed cellular structures. This process is carried out by various chemical reactions facilitated by enzymes within the body.

—Balance:

Oils: clove, Grounding Blend, oregano

Diffuse into the air. Inhale oil applied to tissue or cotton wick.

Dilute as recommended, and apply 1–2 drops on neck or on bottoms of the feet.

Metals

see ***Detoxification***

Mice (Repel)

Oils: Cleansing Blend

Apply 1–2 drops in small openings or crevices where mice are likely to appear. Add 1–5 drops to small cotton balls, and place in openings where mice may come in.

Diffuse into the air.

Migraines

see ***Headaches:Migraine Headache***

Mildew

see also Antifungal

Mildew is a whitish fungus that forms a flat growth on plants and organic material. Mildew attacks clothing, leather, paper, ceilings, walls, floors, shower walls, windowsills, and other places with high moisture levels. Mildew can produce a strong musty odor, especially in places with poor air circulation.

Oils: Cleansing Blend

: Place a few drops in a small spray bottle with distilled water, and spray into air or on surface to help neutralize mildew.

Mind

see Alertness, Brain, Energy:Fatigue:Mental Fatigue, Memory

Minerals (Deficiency)

Minerals are naturally-occurring, inorganic substances with a chemical composition and structure. Some minerals are essential to the human body. A person is considered to have a mineral deficiency when the concentration level of any mineral needed to maintain optimal health is abnormally low in the body.

Other Products: Food Nutrient Complex contains a balanced blend of minerals essential for optimal cellular health, including calcium, magnesium, zinc, selenium, copper, manganese, chromium, and molybdenum; Fruit & Veggie Drink Mix for a whole food source of essential nutrients.

: Take capsules as directed on package.

Miscarriage

see Pregnancy/Motherhood:Miscarriage

Moles

see Skin:Moles

Mono (Mononucleosis)

see also Antiviral

Mononucleosis is a viral disease caused by the Epstein-Barr virus that usually spread through contact with infected saliva, tears, and mucous. Most adults have been exposed to this virus sometime in their lives, but many display no symptoms or only very mild flu-like symptoms. Mononucleosis symptoms are most often seen in adolescents and young adults. Symptoms of this disease include fatigue, weakness, severe sore throat, fever, swollen lymph nodes, swollen tonsils, headache, loss of appetite, and a soft or swollen spleen. Once individuals are exposed to the Epstein-Barr virus, they carry the virus for the rest of their lives. The virus sporadically becomes active, but the symptoms do not appear again. Whenever the virus is active, however, it can be spread to others—even if the person carrying it shows no symptoms.

Oils: Respiratory Blend, Protective Blend

Other Products: Protective Softgels

Blend 1: Combine 3 drops oregano, 3 drops Protective Blend, and 3 drops thyme. Rub the blend on the feet.

: Dilute as recommended, and apply 1–3 drops on throat and feet.

: Diffuse into the air. Inhale oil directly from bottle, or inhale oil that is applied to the hands.

Mood Swings

A mood swing is a rapid change of mood caused by fatigue or by a sudden shift in the body's hormonal balance.

Oils: clary sage, Calming Blend, lavender, Grounding Blend, rosemary, Joyful Blend, geranium, rose, ylang ylang, sandalwood, lemon, peppermint, bergamot, fennel

: Diffuse into the air. Inhale oil directly or applied to the hands.

Morning Sickness

see Pregnancy/Motherhood:Morning Sickness

Mosquitoes

see Insects/Bugs:Mosquitoes

Motion Sickness

see Nausea:Motion Sickness

MRSA

see Antibacterial

Mucus

see Congestion

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

Multiple Sclerosis

see also Brain:Myelin Sheath

Multiple sclerosis (MS) is an autoimmune disease in which the immune system attacks and gradually destroys the myelin sheath (which covers and insulates the nerves) and the underlying nerve fibers of the central nervous system. This destruction of the myelin sheath interferes with communication between the brain and the rest of the body. Symptoms of MS include partial or complete loss of vision, tingling, burning, pain in parts of the body, tremors, loss of coordination, unsteady gait, dizziness, and memory problems.

Oils: ⊖⊘frankincense, ⊖⊘sandalwood, ⊖⊘peppermint, ⊖cypress, ⊖juniper berry, ⊖⊘Calming Blend, ⊖oregano, ⊖thyme, ⊖birch, ⊖rosemary, ⊖wintergreen

Other Products: ○Essential Oil Omega Complex or Vegan Essential Oil Omega Complex or ○Omega-3 Fish Oil for omega-3 fatty acids that help support nerve and brain function.

⊖: Dilute as recommended, and apply 1–2 drops to spine, back of neck, and feet. Dilute 1–3 drops in 1 Tbs. fractionated coconut oil, and massage on back and neck.

○: Take capsules as directed on package.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Mumps

see Childhood Diseases: Mumps

Muscles/Connective Tissue

see also Cardiovascular System:Heart Tissue

Muscle is the tissue in the body that has the ability to contract, making movement possible. The three main types of muscle in the body are smooth muscle (such as that in the stomach, intestines, and blood vessels), cardiac muscle (found in the heart), and skeletal muscle (attached to the bones). Skeletal muscles are connected to the bones with tough fibrous tissue called tendons and allow for coordinated, controlled movement of the body, such as walking, pointing, or eye movement. Smooth muscles and cardiac muscles move automatically without conscious control to perform their functions.

Oils: ⊖marjoram, ⊖Soothing Blend, ⊖peppermint, ⊖Massage Blend, ⊖birch, ⊖cypress, ⊖wintergreen, ⊖lemongrass, ⊖lavender

Other Products: ⊖Soothing Rub and ○Soothing Polyphenol Complex to help relieve sore muscles, ○Energy & Stamina Complex, ○Cellular Vitality Complex, ○Chewable Multivitamin, ○Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, ○Omega-3 Fish Oil, ○Food Nutrient Complex for coenzyme Q10 and other nutrients to support muscle cell energy and function.

—Aches and Pains: *see also* Pain

Muscle pain usually results from overuse, tension, stress, strain, or injury. However, muscle pain can also be caused by a disease or infection affecting the whole body, such as the flu, fibromyalgia, or a connective tissue disorder.

Oils: ⊖marjoram, ⊖Soothing Blend, ⊖birch, ⊖clove, ⊖Massage Blend, ⊖oregano, ⊖peppermint, ⊖wintergreen, ⊖white fir (with inflammation), ⊖vetiver, ⊖Roman chamomile, ⊖helichrysum, ⊖ginger, ⊖lavender, ⊖rosemary, ⊖thyme

Other Products: ⊖Soothing Rub and ○Soothing Polyphenol Complex to help relieve sore muscles.

—Bruised: *see* Bruises

—Cardiac Muscle: *see also* Cardiovascular System:Heart

Cardiac muscle is the type of muscle found in the walls of the heart.

Oils: ⊖⊘marjoram, ⊖⊘lavender, ⊖⊘peppermint, ⊖⊘rosemary, ⊖cinnamon

—Cartilage Injury:

Cartilage is a type of connective tissue in the body. It is firmer than other tissues and is used to provide structure and support without being as hard or as rigid as bone. Types of cartilage include hyaline cartilage, elastic cartilage, and fibrocartilage. Hyaline cartilage lines the bones and joints, helping them move smoothly. Elastic cartilage is found in the ear and larynx and is used to keep other tubular structures, such as the nose and trachea, open. Fibrocartilage is the strongest and most rigid cartilage. It is found in the intervertebral discs and other high-stress areas and serves to connect tendons and ligaments to bones. The hyaline cartilage surrounding bones and joints can become torn or injured if the joint is bent or twisted in a traumatic way. This can cause pain, swelling, tenderness, popping, or clicking within the joint and can limit movement.

Oils: birch, wintergreen, marjoram, lemongrass, white fir, peppermint

—Cramps/Charley Horses:

A muscle cramp or charley horse is the sudden, involuntary contraction of a muscle. Muscle cramps can occur in any muscle in the body, but they usually occur in the thigh, calf, or arch of the foot. Cramps can be caused by excessive strain to the muscle, injury, overuse, dehydration, or lack of blood flow to the muscle. Muscle cramps can happen during or after a physical activity and while lying in bed.

Oils: lemongrass with peppermint, marjoram, Soothing Blend, rosemary, basil, thyme, vetiver, Roman chamomile, cypress, spearmint, clary sage, lavender

—Development:

When muscles are stretched or used during exercise, they produce a substance that activates stem cells already present in the tissue. Once these cells are activated, they begin to divide—creating new muscle fiber and thereby increasing the size and strength of the muscles.

Oils: birch, wintergreen, Soothing Blend

—Fatigue:

Muscle fatigue is the muscle's temporary reduction in strength, power, and endurance. This happens when there is an increase in lactic acid and blood flow to the muscle, a depletion of glycogen, or a deprivation of oxygen to the tissue.

Oils: marjoram, white fir, cypress, peppermint, eucalyptus, grapefruit, rosemary, thyme

Other Products: Soothing Blend Rub and Soothing Polyphenol Complex

—Inflammation: *see Inflammation*

—Ligaments:

A ligament is a sheet or band of tough connective tissue and fibers that connects bones together or helps bind and support a joint.

Oils: lemongrass

—Over Exercised:

When a person overexercises, his or her muscles do not get sufficient rest or time to heal. This continued muscle strain can cause muscle sprains, strain, and even tears to soft tissue. It may also cause stiffness and soreness to the neck, upper or lower back, shoulder, arm, or joint.

Oils: white fir, eucalyptus, lavender, thyme, ginger

Other Products: Soothing Rub and Soothing Polyphenol Complex to help provide comfort to tired and sore muscles.

Recipe 1: Add 3 drops marjoram and 2 drops lemon to warm bathwater, and soak.

Blend 1: Combine 2 drops eucalyptus, 2 drops peppermint, and 2 drops ginger with 1 Tbs. fractionated coconut oil, and massage into muscles.

—Rheumatism (Muscular): *see Fibromyalgia*

—Smooth Muscle:

Oils: marjoram, rosemary, peppermint, fennel, cypress, juniper berry, clary sage, melissa, lavender, sandalwood, bergamot

—Spasms:

A muscle spasm is a sudden, involuntary contraction or twitching of a muscle. This may or may not cause pain.

Oils: basil, marjoram, Soothing Blend, Roman chamomile, peppermint, cypress, clary sage, lavender

—Sprains:

A sprain is an injury to a ligament caused by excessive stretching. The ligament can have little tears in it or it can be completely torn apart to be considered a sprain. The most common areas to receive a sprain are the ankle, knee, and wrist. After a person receives a sprain, the area will swell rapidly and be quite painful. If the ligament is torn apart, surgery may be required.

Oils: marjoram, lemongrass, white fir, helichrysum, rosemary, thyme, vetiver, eucalyptus, clove, ginger, lavender

—Strain:

A strain is a tear of the muscle tissue due to excessive strain or overstretching. Strains can cause inflammation, pain, and discoloration of the skin around the injured area.

Oils: lemongrass, Soothing Blend, ginger (circulation), helichrysum (pain)

—Stiffness:

Oils: Soothing Blend

Other Products: Soothing Rub and Soothing Polyphenol Complex

—Tendinitis:

Tendinitis is the inflammation of a tendon due to injury, repetitive exercise or strain, or diseases such as arthritis, gout, and gonorrhea. This can cause swelling and pain in the effected tendon.

Oils: marjoram, lavender

—Tension (especially in shoulders and neck):

Muscle tension is a condition in which the muscle remains in a semi-contracted state for an extended period of time. This is usually due to physical or emotional stress.

Oils: marjoram, Soothing Blend, peppermint, helichrysum, juniper berry, lavender, Roman chamomile

Other Products: Soothing Rub and Soothing Polyphenol Complex

—Tone:

Apply these oils before exercise to help tone muscles.

Oils: birch, cypress, wintergreen, marjoram, basil, peppermint, orange, thyme, rosemary, juniper berry, grapefruit, lavender

⊖: Dilute as recommended, and apply 1–2 drops on location. Add 2–4 drops to 1 Tbs. fractionated coconut oil, and massage into desired muscles or joints. Add 1–2 drops to warm bathwater, and bathe. Apply as hot or cold (for strains or sprains) compress.

O: Take capsules as directed on package. Place 1–2 drops of oil under the tongue or add 1–2 drops essential oil to empty capsule, and swallow.

⊘: Diffuse into the air.

Additional Research:

Peppermint: A combination of peppermint oil and ethanol was found to have a significant analgesic effect with a reduction in sensitivity to headache; while a combination of peppermint, eucalyptus, and ethanol were found to relax muscles, and increase cognitive performance in humans (Göbel et al., 1994).

Rosemary: Rosemary oil demonstrated a relaxant effect on smooth muscle from the trachea of rabbits and guinea pigs (Aqel, 1991).

Muscular Dystrophy

Muscular dystrophy is any of several genetic diseases that cause gradual weakening of the skeletal muscles. The most common forms, Duchenne and Becker muscular dystrophies, are caused by a gene defect that inhibits or alters the production of dystrophin, a protein necessary for proper muscle cell structure.

Oils: marjoram, lemongrass, basil, rosemary, Massage Blend, Soothing Blend, geranium, lavender, lemon, orange, ginger

Other Products: Soothing Rub and Soothing Polyphenol Complex to help relieve and relax tense and aching muscles.

⊖: Dilute as recommended, and apply 1–2 drops on location. Add 2–4 drops to 1 Tbs. fractionated coconut oil, and massage into desired muscles. Add 1–2 drops to warm bathwater and bathe. Apply as cold compress.

Myelin Sheath

see ***Brain:Myelin Sheath***

Nails

Oils: lemon, frankincense, myrrh, Invigorating Blend, melaleuca (infection), eucalyptus, lavender, grapefruit, rosemary, cypress, oregano, thyme

Blend 1: Combine 2 drops frankincense, 2 drops lemon, and 2 drops myrrh with 2 drops wheat germ oil. Apply 2–3 times per week.

Other Products: Food Nutrient Complex for nutrients essential to healthy nail growth.

⊖: Dilute as recommended, and apply 1–2 drops to nails. Add 1–2 drops to 1 tsp. fractionated coconut oil, and apply to nails.

O: Take capsules as directed on package.

○: **Additional Research:**

Melaleuca: Topical application of 100% tea tree oil was found to have results similar to topical application of 1% clotrimazole (antifungal drug) solution on onychomycosis (also known as tinea, or fungal nail infection) (Buck et al., 1994).

Nasal

see Nose

Nausea

Nausea is a sick feeling in the stomach producing an urge to vomit.

Oils: O⊘⊖ginger○, ⊘peppermint○, ⊖⊘lavender, O⊘⊖cardamom, ⊖⊘Digestive Blend, ⊘⊖patchouli, ⊘⊖juniper berry, ⊖⊘clove

Other Products: ODigestive Softgels

—Morning Sickness: *see* Pregnancy/ Motherhood:Morning Sickness

—Motion Sickness:

Motion sickness is a feeling of illness that occurs as a result of repeated movement, such as that experienced in a car, on a boat, or on a plane. These motions interfere with the body's sense of balance and equilibrium. The most common symptoms of motion sickness include dizziness, fatigue, and nausea.

Oils: ⊘peppermint, ⊘Digestive Blend, ⊘ginger

—Vomiting:

Oils: O⊘ginger○, ⊘peppermint, ⊘⊖patchouli, ⊖Ofennel, ⊖rose, ⊖Roman chamomile

O: Place 1–2 drops essential oil in an empty capsule, and swallow. Take supplements as directed.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊖: Dilute as recommended, and apply 1–2 drops to the feet, temples and wrists. Dilute 1–2 drops essential oil in 1 Tbs. fractionated coconut oil, and massage on stomach. Apply oil as a warm compress.

○: **Additional Research:**

Ginger: Ginger root given orally to pregnant women was found to decrease the severity of nausea and frequency of vomiting compared to control (Vutyavanich et al., 2001).

Ginger: Ginger root given one hour before major gynecological surgery resulted in lower nausea and fewer incidences of vomiting compared to control (Nanthakomon et al., 2006).

Ginger: In a trial of women receiving gynecological surgery, women receiving ginger root had less incidences of nausea compared to a placebo. Ginger root has similar results to the antiemetic drug (a drug effective against vomiting and nausea) metoclopramide (Bone et al., 1990).

Peppermint: Oral administration of capsules containing two drops of either spearmint or peppermint oil to cancer patients during chemotherapy cycles was found to reduce the intensity of nausea when compared to the control (Tayarani-Najaran et al., 2013).

Neck

Oils: ⊖lemon, ⊖geranium, ⊖clary sage, ⊖orange, ⊖basil, ⊖helichrysum

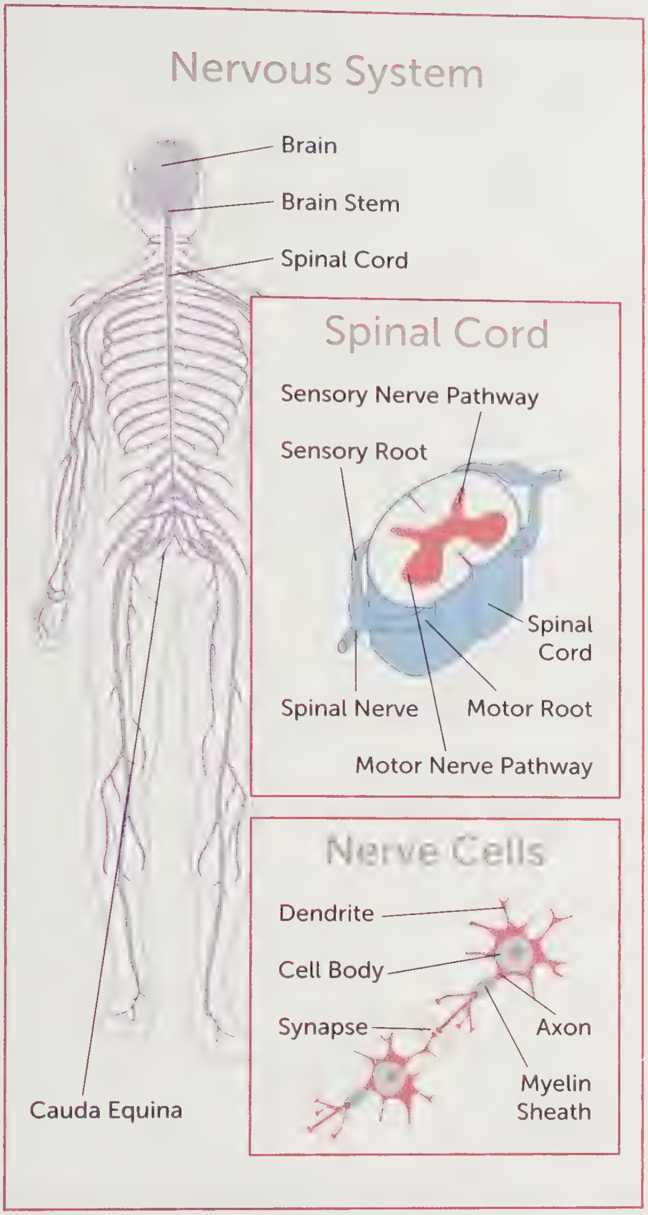
⊖: Dilute 1–5 drops oil in 1 Tbs. fractionated coconut oil, and massage on neck.

Nervous System

see also Back, Brain

The nervous system is a network of nerve cells that regulates the body's reaction to external and internal stimuli. The nervous system sends nerve impulses to organs and muscles throughout the body. The body relies on these impulses to function. The nervous system is comprised of the central nervous system (the brain and spinal cord) and the peripheral nervous system (all other nerves). The peripheral nervous system is comprised of the somatic nervous system (nerves that connect to the skeletal muscles and sensory nerve receptors in the skin) and the autonomic nervous system (nerves that connect to the cardiac and smooth muscles and other organs, tissues, and systems that don't require conscious effort to control). The autonomic system is divided further into two main parts: the sympathetic and parasympathetic nervous systems. The sympathetic nervous system functions to accelerate heart rate, increase blood pressure, slow digestion, and constrict blood vessels. It activates the "fight or flight" response in order to deal with threatening or stressful situations. The parasympathetic nervous system functions to slow heart rate, store energy, stimulate digestive activity, and relax specific muscles. It allows the body to return to a normal and calm state after experiencing pain or stress.

Oils: ⊖⊘peppermint○ (soothes and strengthens damaged nerves), ⊖⊘basil (stimulates), ⊖⊘lavender○, ⊘⊖lemon○, ⊘⊖grapefruit, ⊖⊘frankincense○, ⊖⊘bergamot, ⊖⊘cedarwood (nervous tension), ⊖⊘lemongrass (for nerve damage), ⊖⊘marjoram (soothing), ⊖⊘geranium (regenerates), ⊘⊖Calming Blend, ⊖⊘Roman chamomile, ⊖⊘juniper berry, ⊖⊘vetiver, ⊖⊘cinnamon, ⊖⊘ginger, ⊖⊘orange, ⊖⊘sandalwood



Other Products: ○Energy & Stamina Complex to help support healthy nerve function. ○Essential Oil Omega Complex or Vegan Essential Oil Omega Complex or ○Omega-3 Fish Oil for essential omega fatty acids that help support nerve cell health. ○Food Nutrient Complex, ○Chewable Multivitamin for nutrients and minerals necessary for proper nerve cell function. ○Cellular Vitality Complex for nutrients that help support nerve cell health and energy.

—Bell's Palsy:

Bell's palsy is a weakness or paralysis of muscles on one side of the face. Bell's palsy tends to set in quickly, normally in a single day. Symptoms include numbness of one side of the face, loss of ability to taste, drooling, pain in or behind the ear, facial droop, headache, and change in the amount of saliva or tears produced. In most cases Bell's palsy symptoms will begin to improve within a few weeks. But in some few cases the symptoms continue for life.

Oils: ⊖⊘peppermint, ⊖⊘rosemary, ⊖⊘thyme

—Carpal Tunnel Syndrome: *see Carpal Tunnel Syndrome*

—Huntington's Disease:

Huntington's disease (HD) is a progressive neurodegenerative disorder passed genetically from one generation to the next. As the disease develops, it causes nerve cells in the brain to waste away, resulting in a loss of control over body movement, emotions, and mental reasoning. Early symptoms include unsteady walking and decreased coordination. Later symptoms include sudden involuntary jerking body movements, slurred speech, decreased mental capacity, and psychological and emotional problems. Those carrying the HD gene have a 50 percent chance of passing it on to each of their children.

Oils: ⊖⊘peppermint, ⊖⊘basil

Other Products: Oils: ○Energy & Stamina Complex to help support healthy nerve function. ○Essential Oil Omega Complex or Vegan Essential Oil Omega Complex

—Lou Gehrig's Disease (ALS): *see Lou Gehrig's Disease*

—Multiple Sclerosis (MS): *see Multiple Sclerosis*

—Neuralgia:

Neuralgia is intense pain felt along the path of a nerve. Neuralgia results from damage or irritation to a nerve. Causes can include certain drugs, diabetes, infections, inflammation, trauma, and chemical irritation.

Oils: ⊖marjoram, ⊖eucalyptus⊖, ⊖Roman chamomile, ⊖lavender, ⊖juniper berry, ⊖helichrysum, ⊖cedarwood

—Neuritis:

Neuritis is the inflammation of a nerve or of a group of nerves. Neuritis causes pain, poor reflexes, and muscle atrophy.

Oils: eucalyptus, Roman chamomile lavender, juniper berry, clove, cedarwood

—Neurotonic:

Oils: melaleuca, thyme

—Paralysis:

Paralysis is the loss of one's ability to move and control one or more specific sets of muscles. Paralysis generally occurs as a result of damage to the nervous system, especially damage to the spinal cord. Primary causes include injury, stroke, multiple sclerosis, amyotrophic lateral sclerosis (Lou Gehrig's disease), botulism, spina bifida, and Guillain-Barré syndrome.

Oils: peppermint, lemongrass, geranium, Grounding Blend, Cleansing Blend, cypress, juniper berry, ginger, [illegible]

—Parasympathetic Nervous System:

The parasympathetic nervous system functions to slow heart rate, store energy, stimulate digestive activity, and relax specific muscles. It allows the body to return to a normal and calm state after experiencing pain or stress.

Oils: lavender (stimulates), lemongrass (regulates), marjoram (tones), Calming Blend, Grounding Blend

—Parkinson's Disease: *see Parkinson's Disease*

—Sympathetic Nervous System:

The sympathetic nervous system functions to accelerate heart rate, increase blood pressure, slow digestion, and constrict blood vessels in most tissues and organs, while dilating arterioles in the skeletal muscles where increased blood flow is needed. It activates the "fight or flight" response in order to deal with threatening or stressful situations.

Oils: grapefruit (stimulates), eucalyptus, peppermint, ginger

—Virus of Nerves: *see also Antiviral*

Oils: frankincense, clove

: Dilute as recommended, and apply 1–3 drops on location, spine, back of neck, and reflex points on the feet. Add 2–4 drops to 1 Tbs. fractionated coconut oil, and massage on location. Add 1–2 drops to warm bathwater, and bathe.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Take capsules as directed on package.

: Additional Research:

Peppermint: Pretreatment of human and rat astrocyte cells (cells found in the nerve and brain that support the blood-brain barrier and help repair the brain and spinal cord following injuries) with peppermint oil was found to inhibit heat-shock induced apoptosis of these cells (Koo et al., 2001).

Lavender: Lavender oil scent was found to lower sympathetic nerve activity and blood pressure, while elevating parasympathetic nerve activity in rats. It was further found that applying an anosmia-inducing agent (something that causes a loss of smell) eliminated the effects of the lavender oil scent (Tanida et al., 2006).

Lavender: Lavender oil was found to inhibit sympathetic nerve activity, while exciting parasympathetic nerve activity in rats. Linalool, a component of lavender, was shown to have similar effects (Shen et al., 2005).

Lemon: Inhaling the aroma of lemon essential oil was found to decrease pain response in rats and was also found to modulate the neuronal response to formalin-induced pain (Aloisi et al., 2002).

Lemon: Several constituents of lemon oil and their metabolites (chemicals made by these chemicals in the body) were found to increase the release of monoamines (various chemicals responsible for neurotransmission and neuromodulation) in rat brain tissue, indicating a possible effect on brain nerve cell behavior (Fukumoto et al., 2006).

Lemon: Pretreatment of human and rat astrocyte cells (cells found in the nerve and brain that support the blood-brain barrier and help repair the brain and spinal cord following injuries) with lemon oil was found to inhibit heat-shock induced apoptosis of these cells (Koo et al., 2002).

Grapefruit: The scent of grapefruit oil and its component, limonene, was found to affect the autonomic nerves and reduce appetite and body weight in rats exposed to the oil for 15 minutes three times per week (Shen et al., 2005).

Grapefruit: Inhalation of essential oils such as pepper, estragon, fennel, and grapefruit was found to have a stimulating effect on sympathetic activity; while inhalation of essential oils of rose or patchouli caused a decrease in sympathetic activity in healthy adults (Haze et al., 2002).

Frankincense: Incensole acetate, isolated from frankincense resin, was found to demonstrate an anti-inflammatory and neuro-protective effect in mice with a closed head injury (Moussaieff et al., 2008).

Eucalyptus: 1,8 cineole (eucalyptol) was found to display an anti-inflammatory effect on rats in several tests and was found to exhibit antinociceptive (pain-reducing) effects in mice, possibly by depressing the central nervous system (Santos et al., 2000).

Nervousness

Nervousness is a state of high anxiety, distress, agitation, or psychological uneasiness.

Oils: orange

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Dilute as recommended, and apply 1–2 drops to temples.

Nose

Oils: melaleuca, rosemary

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

—Bleeding:

A nosebleed (medically called *epistaxis*) is the loss of blood through the nose. Nosebleeds are fairly common and can be caused by many factors. The most common causes of nosebleed are dry air that causes the nasal membrane to dry out and crack, allergies, nose trauma/injury, and colds and other viruses.

Oils: helichrysum, cypress, lemon, frankincense, lavender

Blend 1: Combine 2 drops cypress, 1 drop helichrysum, and 2 drops lemon in 8 oz. (1 cup) ice water. Soak a cloth in the water, and apply the cloth to nose and back of neck.

—Nasal Nasopharynx:

The nasopharynx is the upper part of the throat (pharynx) situated behind the nose. The nasopharynx is responsible for carrying air from the nasal chamber into the trachea.

Oils: eucalyptus

—Nasal Polyp:

A nasal polyp is an abnormal tissue growth inside the nose. Since nasal polyps are not cancerous, very small polyps generally do not cause any problems. But larger polyps can obstruct the nasal passage and make it difficult to breath or smell and can cause frequent sinus infections. Possible symptoms of polyps include runny nose, decreased sense of smell, decreased sense of taste, snoring, facial pain or headache, itching around the eyes, and persistent congestion.

Oils: frankincense, oregano, Respiratory Blend, peppermint, Cleansing Blend, basil

—Olfactory Loss:

Olfactory loss (or anosmia) is the loss of one's ability to smell. The most common causes for olfactory loss are sinonasal disease, head injury, and infection of the upper respiratory tract.

Oils: peppermint, basil

—Rhinitis: *see also* *Allergies, Antiviral, Colds*

Rhinitis is an inflammation of the nasal mucus membrane (the moist lining inside the nasal cavity where mucus is produced that acts as an air filtration system by trapping incoming dirt particles and moving them away for disposal). Rhinitis can cause runny nose, nasal congestion, sneezing, ear problems, and phlegm in the throat. Rhinitis is commonly caused by viral infections and allergies and can be acute (short-term) or chronic (long-term).

Oils: eucalyptus, peppermint, lemon, lavender, basil

Other Products: Seasonal Blend Softgels

✋: Dilute as recommended, and apply 1–2 drops on nose (use extreme caution to avoid getting oil in the eye). Dilute as recommended, and apply 1 drop to a cotton swab, and swab the inside of the nose.

🌀: Diffuse into the air, and inhale the vapors through the nose. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

📖: **Additional Research:**

Lemon: A study including 100 patients (ages 3 to 79) suffering from vasomotor allergic rhinopathy, showed that topical application of a citrus lemon based spray resulted in a total reduction of eosinophils granulocytes and mast cells. These results suggest that the lemon-based nasal spray is a good alternative to conventional medicine for the treatment of perennial and seasonal allergic and vasomotor rhinopathy (Ferrara et al., 2012).

Nursing

see *Pregnancy/Motherhood:Lactation*

Obesity

see *Weight:Obesity*

Odors

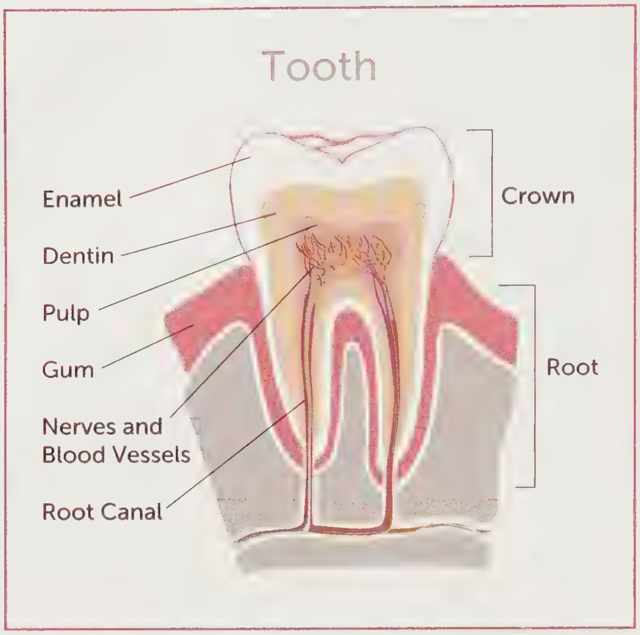
see *Deodorant, Deodorizing*

Oral Conditions

see also *Antibacterial, Antifungal:Thrush.*

—Abscss:

A tooth abscess is a collection of pus at the root of an infected tooth. The main symptom of a tooth abscess is a painful, persistent, throbbing toothache. The infected tooth may be sensitive to heat, cold, and pressure caused by chewing. Later symptoms may include swelling in the face, swollen lymph nodes in the neck or jaw, and a fever. Abscesses may eventually rupture, leaving a foul-tasting fluid in the mouth. If left untreated, an abscess can spread to other areas of the head and neck.



Oils: clove, Protective Blend, Cleansing Blend, helichrysum, melaleuca, frankincense, Roman chamomile, wintergreen

Other Products: Protective Toothpaste

Blend 1: Blend 1 drop each of clove, wintergreen, myrrh, and helichrysum to help with infection.

—Cavities:

A cavity is a decayed area or hole in a tooth caused by bacteria in the mouth. A cavity that is allowed to progress without treatment can result in pain, infection, and loss of the tooth. Good oral hygiene and eating less sugar can help to reduce the risk of cavities.

Oils: Protective Blend, melaleuca, peppermint, eucalyptus, cinnamon

Other Products: Protective Toothpaste

—Gums:

The gums (also called "gingiva") are the soft pink tissue surrounding the teeth. The gums form a seal around the teeth and are snugly attached to the bone underneath to withstand the friction of food passing over them in chewing.

Oils: myrrh, lavender, melaleuca, helichrysum, Roman chamomile

Other Products: Protective Toothpaste

—Gum Disease:

Gum disease is an infection of the tissue and bones surrounding the teeth and is caused by a buildup of plaque. Gum disease consists of two parts: first gingivitis and then periodontal disease. Gingivitis is an inflammation of the gums because of bacteria associated with plaque buildup. When infected with gingivitis, the gums become red and swollen and often bleed during teeth brushing. Periodontal disease occurs when gingivitis is left untreated and becomes progressively worse. The inflamed gums begin pulling away from the teeth and leave empty pockets where food particles can easily collect and become infected. As the disease progresses, the gums pull farther away from the teeth and the bacteria eats away at the tissue and bone. As this occurs, the teeth lose their anchoring and can fall out.

Oils: melaleuca, Protective Blend, myrrh, helichrysum, rose

Other Products: Protective Toothpaste

—Halitosis (Bad Breath):

Halitosis is the technical term for "bad breath." Common causes of halitosis include smoking, drinking, poor oral hygiene, gum disease, dry mouth, tooth decay, and certain foods.

Oils: peppermint, Protective Blend, patchouli, lavender

Other Products: Protective Toothpaste

—Mouth Ulcers:

Mouth ulcers are open, often painful, sores that occur in the mouth. Common mouth ulcers include canker sores and cold sores. Stress, anxiety, fatigue, injury, illness, hormonal changes, and food allergies can often trigger mouth ulcers.

Oils: basil, myrrh, orange

Other Products: Protective Toothpaste

—Teeth Grinding:

Teeth grinding (also called bruxism) is the habit of clenching the teeth and rubbing them against one another. Teeth grinding often occurs unconsciously while a person is asleep. If teeth grinding is frequent, it can lead to tooth damage, jaw pain, and headaches.

Oils: Calming Blend

—Teething Pain:

Around ages 4–7 months, a baby will get his or her first teeth. Some infants teethe without discomfort; but for other infants, teething can be a painful process. Common symptoms of teething include irritability or fussiness, drooling, chin rash, biting, difficulty sleeping, and low-grade fever.

Oils: ⊖lavender

—Toothache:

A toothache is a pain around a tooth. Toothaches can result from many factors, including infection, injury, decay, jaw problems, cavities, damaged fillings, and gum disease. Common symptoms of a toothache include sharp or throbbing pain, swelling around the tooth, fever, headache, and foul-tasting drainage from the infected tooth.

Oils: ⊖clove, ⊖melaleuca, ⊖Cleansing Blend, ⊖Roman chamomile

Other Products: ⊖Protective Toothpaste

—Toothpaste:

Oils: ⊖Protective Blend

Other Products: ⊖Protective Toothpaste

Recipe 1: Mix 1–2 drops Protective Blend blend with 1/2 tsp. baking soda to form a paste, and use as toothpaste to brush onto the teeth.

⊖: Dilute as recommended, and apply 1–2 drops on location or along jawbone. Apply the oils with a hot compress on the face. Use Protective Blend toothpaste as directed. Dilute as recommended, and apply 1–2 drops to a small cotton ball or cotton swab; swab on location. Mix 1–2 drops with 4 oz. of water, and use as mouth-rinse. Add 1–2 drops to toothpaste. Place 5–6 drops with 1 oz. distilled water in a small spray bottle, and mist into the mouth.

⊘: Diffuse into the air.

○: **Additional Research:**

Melaleuca: Among several oils tested, tea tree (melaleuca), manuka, and eucalyptus demonstrated strong antibacterial activity against detrimental oral bacteria (Takarada et al., 2004).

Melaleuca: Tea tree, peppermint, and sage oils were found to inhibit oral bacteria, with thymol and eugenol being the most active components of these oils (Shapiro et al., 1994).

Melaleuca: Cinnamon oil exhibited a strong antimicrobial activity against two detrimental oral bacteria. Manuka, tea tree, and the component thymol also exhibited antimicrobial potency (Filoche et al., 2005).

Melaleuca: In 34 patients with fixed orthodontic appliances, a dental gel containing 5% melaleuca essential oil performed better than Colgate Total gel when comparing microbial biofilm and quantification of *Streptococcus mutans* in the patients' saliva (Santamaria et al., 2014).

Peppermint: Peppermint oil blended with toothpaste was found to be more effective at lower concentrations in inhibiting the formation of dental plaque than chlorhexidine (an antiseptic) in human volunteers (Shayegh et al., 2008).

Peppermint: Peppermint and rosemary oils were each found to be more effective at preventing dental biofilm (plaque) formation than chlorhexidine (an antiseptic) (Rasooli et al., 2008).

Eucalyptus: Among several oils tested, tea tree (melaleuca), manuka, and eucalyptus demonstrated strong antibacterial activity against detrimental oral bacteria (Takarada et al., 2004).

Eucalyptus: Subjects using a mouthwash containing thymol, menthol, methyl salicylate, and eucalyptol for 6 months were found to not have developed oral bacteria that were resistant to the oils (Charles et al., 2000).

Cinnamon: Cinnamon oil exhibited a strong antimicrobial activity against two detrimental oral bacteria. Manuka, tea tree, and the component thymol also exhibited antimicrobial potency (Filoche et al., 2005).

Osteomyelitis

see Bones:Osteomyelitis

Osteoporosis

see Bones:Osteoporosis

Ovaries

Ovaries are the female reproductive organs in which eggs are produced and stored.

Oils: ⊖⊘rosemary (regulates), ⊖⊘geranium, ⊖⊘Blend for Women, ⊖⊘Digestive Blend

—Ovarian Cyst:

An ovarian cyst is a fluid-filled sac within the ovary. While ovarian cysts are common, and most cause no problems, they may cause feelings of aching or pressure and can cause pain, bleeding, and other problems if they become too large or become twisted or rupture.

Oils: ⊖⊘basil

⊖: Dilute as recommended, and apply 1–2 drops on abdomen and reflex points on the feet. Add 1–2 drops to 1 Tbs. fractionated coconut oil, and massage into abdomen and lower back. Apply as a warm compress to the abdomen. Add 1–2 drops to 2 tsp. olive oil, insert into vagina, and retain overnight with a tampon.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Overeating

see Eating Disorders:Overeating

Overweight

see Weight

Oxygenating

The term "oxygenate" means to supply, to treat, or to infuse with oxygen. All of the cells in the body require oxygen to create the energy necessary to live and function correctly. The brain consumes 20% of the oxygen we inhale.

Oils: sandalwood, frankincense, oregano, fennel

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Dilute as recommended, and apply 1–2 drops to forehead, chest, and sinuses.

Pain

Oils: lavender, eucalyptus, Soothing Blend, lemon, rosemary, clove, cypress, white fir, helichrysum, geranium, frankincense, lemongrass, marjoram, melaleuca, peppermint, rosemary, wintergreen

Other Products: Soothing Rub and Soothing Polyphenol Complex to help soothe muscles and joints. Cellular Vitality Complex, Chewable Multivitamin to help relieve oxidation associated with inflammation that contributes to pain.

—Bone:

Bone pain is a gnawing, throbbing sensation in the bones and has many possible causes, including fractures, cancer, infection, injury, leukemia, and osteoporosis.

Oils: Soothing Blend, wintergreen, lavender, cypress, juniper berry, white fir, cedarwood, helichrysum, peppermint, sandalwood

—Chronic:

Chronic pain is generally defined as pain that lasts three months or longer.

Oils: Soothing Blend, wintergreen, cypress, white fir, juniper berry, helichrysum, cedarwood, ginger, peppermint, sandalwood

—General:

Oils: Soothing Blend, wintergreen, lavender, cypress, marjoram, white fir, helichrysum, peppermint, sandalwood

—Inflammation: *see also* Inflammation

Oils: rosemary, eucalyptus, lavender, Soothing Blend

Other Products: Soothing Rub and Soothing Polyphenol Complex

—Joints:

Oils: Soothing Blend, wintergreen, Roman chamomile

Other Products: Soothing Rub and Soothing Polyphenol Complex

—Muscle:

Oils: Soothing Blend, white fir, clove, lavender, lemongrass (ligaments), cypress, marjoram, helichrysum, peppermint, sandalwood, wintergreen

Other Products: Soothing Rub and Soothing Polyphenol Complex

—Tissue:

Oils: Soothing Blend, helichrysum

Other Products: Soothing Rub and Soothing Polyphenol Complex

: Dilute as recommended, and apply 1–2 drops on location. Combine with carrier oil, and massage into affected muscles and joints. Apply as a warm compress over affected areas.

: Take capsules as directed on package.

: Diffuse into the air. Inhale oil that is applied to a tissue or cotton wick.

: **Additional Research:**

Lavender: Lavender oil was found to work as an anaesthetic (reducing pain) in a rabbit reflex test (Ghelardini et al., 1999).

Lavender: Oil from Lavandula angustifolia was found to reduce writhing in induced writhing in rats and to reduce edema (swelling) in carrageenan-induced paw edema, indicating an anti-inflammatory effect (Hajhashemi et al., 2003).

Lavender: The odor of lavender combined with relaxing music was found to lessen the intensity of pain following a vascular wound dressing change (Kane et al., 2004).

Lavender: In patients suffering from arthritis, it was found that a blend of lavender, marjoram, eucalyptus, rosemary, peppermint, and carrier oils reduced perceived pain and depression compared to a control (Kim et al., 2005).

Eucalyptus: A combination of peppermint oil and ethanol was found to have a significant analgesic effect with a reduction in sensitivity to headache; while a combination of peppermint, eucalyptus, and ethanol was found to relax muscles and to increase cognitive performance in humans (Göbel et al., 1994).

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

Eucalyptus: 1,8 cineole (eucalyptol) was found to have antinociceptive (pain-reducing) properties similar to morphine. Beta-pinene was found to reverse the effects of morphine in a degree similar to naloxone (a drug used to counter the effects of morphine overdose) (Liapi et al., 2007).

Eucalyptus: 1,8 cineole (eucalyptol) was found to display an anti-inflammatory effect on rats in several tests and was found to exhibit antinociceptive (pain-reducing) effects in mice, possibly by depressing the central nervous system (Santos et al., 2000).

Lemon: Inhaling the aroma of lemon essential oil was found to decrease pain response in rats and was also found to modulate the neuronal response to formalin-induced pain (Aloisi et al., 2002).

Lemon: Rats exposed long-term to lemon essential oil were found to demonstrate different anxiety and pain threshold levels than untreated rats. It was also found that exposure to lemon oil induced chemical changes in the neuronal circuits involved in anxiety and pain (Ceccarelli et al., 2004).

Rosemary: In patients suffering from arthritis, it was found that a blend of lavender, marjoram, eucalyptus, rosemary, peppermint, and carrier oils reduced perceived pain and depression compared to a control (Kim et al., 2005).

Rosemary: A combination of peppermint oil and ethanol was found to have a significant analgesic effect with a reduction in sensitivity to headache; while a combination of peppermint, eucalyptus, and ethanol was found to relax muscles and to increase cognitive performance in humans (Göbel et al., 1994).

Rosemary: 1,8 cineole (eucalyptol) was found to have antinociceptive (pain-reducing) properties similar to morphine. Beta-pinene was found to reverse the effects of morphine in a degree similar to naloxone (a drug used to counter the effects of morphine overdose) (Liapi et al., 2007).

Rosemary: An ethanol extract of rosemary was found to demonstrate anti-nociceptive (pain-blocking) and anti-inflammatory activity in mice and rats (González-Trujano et al., 2007).

Rosemary: Rosemary oil was found to have anti-inflammatory and peripheral antinociceptive (pain sensitivity–blocking) properties in mice (Takaki et al., 2008).

Clove: Beta-caryophyllene (found in clove oil) demonstrated anaesthetic (pain-reducing) activity in rats and rabbits (Ghelardini et al., 2001).

Rosemary: 1,8 cineole (eucalyptol) was found to display an anti-inflammatory effect on rats in several tests and was found to exhibit antinociceptive (pain-reducing) effects in mice, possibly by depressing the central nervous system (Santos et al., 2000).

Rosemary: An ethanol extract of rosemary was found to demonstrate anti-nociceptive (pain-blocking) and anti-inflammatory activity in mice and rats (González-Trujano et al., 2007).

Rosemary: Rosemary oil was found to have anti-inflammatory and peripheral antinociceptive (pain sensitivity–blocking) properties in mice (Takaki et al., 2008).

Coriander: Injection of coriander extract in mice was found to have a greater analgesic effect than dexamethasone (an anti-inflammatory drug) or stress, when mice were subjected to acute and chronic pain tests (Taherian et al., 2012).

Ginger: A double-blind, placebo-controlled study demonstrated that aroma massage with ginger and orange essential oils relieved knee joint pain in elderly subjects more than the placebo (massage with olive oil) or the control (conventional treatment without massage) (Yip et al., 2008).

Painting

Add one 15 ml bottle of your favorite essential oil (or oil blend) to any five gallon bucket of paint. Stir vigorously, mixing well, and then either spray paint or paint by hand. This should eliminate the paint fumes and after-smell.

Palpitations

see Cardiovascular System:Palpitations

Pancreas

The pancreas is a gland organ located behind the stomach. The pancreas is responsible for producing insulin and other hormones and for producing "pancreatic juices" that aid in digestion.

Oils: ⊖cypress, ⊖rosemary, ⊖⊘Respiratory Blend, ⊖⊘lemon, ⊖⊘Protective Blend

—Pancreatitis:

Pancreatitis is the term used to describe pancreas inflammation. Pancreatitis occurs when the pancreatic juices that are designed to aid in digestion in the small intestine become active while still inside the pancreas. When this occurs, the pancreas literally begins to digest itself. Acute pancreatitis lasts for only a short time and then resolves itself. Chronic pancreatitis does not resolve itself but instead gradually destroys the pancreas.

Oils: ⊖⊘lemon, ⊖⊘marjoram

—Stimulant For:

Oils: ⊖helichrysum

—Support:

Oils: ⊖⊘cinnamon, ⊖⊘geranium, ⊖⊘fennel

⊖: Dilute as recommended, and apply 1–2 drops over pancreas area or on reflex points on the feet.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Panic

see Anxiety

Paralysis

see Nervous System:Paralysis

Parasites

A parasite is an organism that grows on or in another organism at the host organism's expense. A parasite cannot live independently and is fed and sheltered by the host organism without making any helpful contribution itself.

Oils: O⊖oregano, O⊖thyme, O⊖fennel, O⊖Roman chamomile, O⊖Digestive Blend, O⊖lavender, ⊖melaleuca, ⊖Oclove

Other Products: ODigestive Softgels

—Intestinal:

Intestinal parasites are parasites that infect the intestinal tract. These parasites enter the intestinal tract through the mouth by unwashed or uncooked food, contaminated water, and unclean hands. Symptoms of intestinal parasites include diarrhea, abdominal pain, weight loss, fatigue, gas or bloating, nausea or vomiting, stomach pain, passing a worm in a stool, stools containing blood and mucus, and rash or itching around the rectum or vulva.

Oils: lemon, oregano, Roman chamomile

—Worms:

Parasitic worms are worm-like organisms that live inside another living organism and feed off their host organism at the host organism's expense, causing weakness and disease. Parasitic worms can live inside of animals as well as humans.

Oils: Digestive Blend, lavender, rosemary, thyme, peppermint, Roman chamomile, bergamot, melaleuca

Blend 1: Combine 6 drops Roman chamomile, 6 drops eucalyptus, 6 drops lavender, and 6 drops lemon with 2 Tbs. fractionated coconut oil. Apply 10–15 drops over abdomen with a hot compress, and apply 1–2 drops on intestine and colon reflex points on the feet.

: Place 2–4 drops essential oil in empty capsule, and swallow. Add 1–2 drops to 4 oz. rice or almond milk; drink.

: Apply as warm compress over abdomen. Add 2–3 drops to 1 Tbs. fractionated coconut oil, and apply as rectal retention enema for 15 minutes or more. Dilute as recommended, and apply to abdomen and reflex points on the feet.

: **Additional Research:**

Oregano: Oregano oil administered orally was found to improve gastrointestinal symptoms in 7 of 11 patients who had tested positive for the parasite Blastocystis hominis and was found to cause disappearance of this parasite in 8 cases (Force et al., 2000).

Lavender: Essential oil from Lavandula angustifolia demonstrated ability to eliminate protozoal pathogens Giardia duodenalis, Trichomonas vaginalis, and Hexamita inflata at concentrations of 1% or less (Moon et al., 2006).

Melaleuca: Melaleuca oil was effective at killing *Anisakis simplex* larva in vitro. Data suggests that the mechanism of action against anisakis involves inhibition of acetylcholinesterase (Gómez-Rincón et al., 2014).

Parasympathetic Nervous System

see Nervous System: Parasympathetic Nervous System

Parkinson's Disease

Parkinson's disease is a progressive neurodegenerative disease marked by impairment of muscle movement and speech. Symptoms of Parkinson's disease include slowed motion, muscle stiffness, difficulty maintaining balance, impaired speech, loss of automatic movements (such as blinking, smiling, and swinging the arms while walking), and hand tremors.

Oils: cinnamon, marjoram, lavender, clary sage, frankincense, Grounding Blend, sandalwood, Calming Blend, vetiver, cypress (circulation), bergamot, geranium, helichrysum, juniper berry, lemon, orange, peppermint, rosemary, thyme

Other Products: Energy & Stamina Complex to help support healthy nerve function. Cellular Vitality Complex, Chewable Multivitamin contain Coenzyme Q10, which has been studied for its potential benefits in alleviating Parkinson's disease. Essential Oil Omega Complex or Vegan Essential Oil Omega Complex for essential omega fatty acids that help support healthy nerve cell function.

: Add 5–10 drops essential oil to 1 Tbs. fractionated coconut oil and massage on affected muscles, back, legs, and neck. Dilute as recommended and apply 1–2 drops to base of neck or reflex points on the feet. Add 3–5 drops to warm bathwater, and bathe.

: Take capsules as directed on package.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: **Additional Research:**

Cinnamon: The process of α-syn protein aggregation is a major component of Parkinson's disease. Preventing α-syn aggregation may help in the treatment of Parkinson's disease. Researchers have discovered that an aqueous cinnamon extract precipitation has a curative effect on α-syn aggregation in a Drosophila model of Parkinson's disease. Furthermore, in vitro tests have revealed that the cinnamon extract has an inhibitory effect on the process of α-syn fibrillation (Shaltiel-Karyo et al., 2012).

Eugenol (found in cassia, cinnamon, and clove): Eugenol administration was found to prevent induced dopamine depression and lipid peroxidation inductivity in the mouse striatum model, suggesting that eugenol may be useful in the treatment of Parkinson's disease (Kabuto et al., 2007).

Coenzyme Q10: A study of Parkinson's disease patients found that CoQ10 was significantly lower in the cortex region of their brains than in the brains of healthy patients (Hargreaves et al., 2008).

Coenzyme Q10: Pretreatment of mice with CoQ10 was found to protect dopaminergic neurons from iron-induced oxidative stress that has been theorized to play a role in the development of Parkinson's disease (Kooncumchoo et al., 2006).

Coenzyme Q10: A mitochondrial defect in fibroblast cells cultivated from 18 Parkinson's disease patients was found to be ameliorated in 50% of these cells treated with CoQ10 (Winkler-Stuck, 2004).

Pelvic Pain Syndrome

Pelvic pain syndrome is characterized by pain in the pelvis area that continues for several months. Symptoms include severe and steady pain, dull aching, a feeling of pressure deep in the pelvis, painful bowel movements, pain during intercourse, and pain when sitting down.

Oils: ⊖ginger, ⊖geranium, ⊖clove, ⊖bergamot, ⊖thyme, ⊖rose

⊖: Place 2–3 drops in warm bathwater, and soak for 10 minutes. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on pelvis and upper legs.

Periodontal Disease

see Oral Conditions:Gum Disease

Pests

see Insects/Bugs, Mice

Phlebitis

see Cardiovascular System:Phlebitis

Pimples

see Acne

Pink Eye

see Eyes:Pink Eye

Pineal Gland

The pineal gland is a tiny endocrine gland located close to the center of the brain. It is responsible for producing the hormone melatonin that regulates the sleep/wake cycle. The pineal gland also serves to regulate blood pressure, sexual development, growth, body temperature, and motor function.

Oils: ⊘frankincense, ⊘sandalwood, ⊘vetiver, ⊘ginger, ⊖cedarwood

⊘: Diffuse into the air. Inhale oil directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Pituitary Gland

The pituitary gland is a small endocrine gland located at the base of the brain that secretes hormones directly into the bloodstream. It is composed of three different lobes, each responsible for producing a different set of hormones. The anterior lobe secretes the human growth hormone (stimulates overall body growth), adrenocorticotropic hormone (controls hormone secretion by the adrenal cortex), thyrotropic hormone (stimulates activity of the thyroid gland), and the gonadotropic hormones (control growth and reproductive activity of the ovaries and testes). The posterior lobe secretes antidiuretic hormone (causes water retention by the kidneys) and oxytocin (stimulates the mammary glands to release milk and causes uterine contractions). The pituitary gland is often referred to as the "master" endocrine gland because it controls the functioning of the other endocrine glands.

Oils: ⊘frankincense, ⊘sandalwood, ⊘vetiver, ⊘ginger

—Balances:

Oils: ⊘⊖ylang ylang, ⊘⊖geranium

—Increases Oxygen:

Oils: ⊘⊖frankincense, ⊘⊖sandalwood

⊘: Diffuse into the air. Inhale oil directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊖: Dilute as recommended, and apply 1–2 drops to forehead, back of neck, and reflex points on big toes.

Plague

see also Antibacterial

Plague is a potentially deadly bacterial disease that is caused by the *Yersinia pestis* bacteria, which is transmitted to humans and animals through close contact or through bites from fleas that have previously bitten infected animals. Symptoms include fever, headaches, and extremely swollen and hot lymph nodes. If left untreated, plague can quickly invade the lungs—causing severe pneumonia, high fever, bloody coughing, and death.

Oils: ⊖⊘clove, ⊘⊖Protective Blend, ⊖⊘frankincense, ⊖⊘oregano

⊖: Dilute as recommended, and apply to neck, chest, and reflex points on the feet.

⊘: Diffuse into the air.

Plaque

see *Antibacterial, Oral Conditions*

Pleurisy

see *Antibacterial, Respiratory System:Pleurisy*

PMS

see *Female Specific Conditions:PMS*

Pneumonia

see also *Respiratory System, Antibacterial, Antifungal, Antiviral*

Pneumonia is an illness characterized by lung inflammation in which the lungs are infected by a bacteria, fungus, or virus. The result is a cough, chest pain, difficulty breathing, fever, shaking chills, headache, muscle pain, and fatigue. Pneumonia is a special concern for young children and individuals over the age of sixty-five. Pneumonia ranges in seriousness from mild to life threatening.

Oils: Respiratory Blend, Protective Blend, thyme, cinnamon, oregano, eucalyptus, melaleuca, lavender, lemon, tangerine, frankincense, myrrh

Other Products: Protective Softgels

: Diffuse into the air. Place 4 drops in 1/2 cup hot water, and inhale steam deeply.

: Take capsules as directed on package.

: Dilute as recommended, and apply to chest, back, and reflex points on the feet. Apply as warm compress to the chest. Place 2–3 drops in 1 tsp. fractionated coconut oil; place oil in rectum, and retain overnight.

: **Additional Research:**

Thyme: Oils with aldehyde or phenol as major components demonstrated a high level of antibacterial activity (Inouye et al., 2001).

Thyme: Cinnamon, thyme, and clove essential oils demonstrated an antibacterial effect on several respiratory tract pathogens (Fabio et al., 2007).

Cinnamon: Oils with aldehyde or phenol as major components demonstrated a high level of antibacterial activity (Inouye et al., 2001).

Cinnamon: Cinnamon, thyme, and clove essential oils demonstrated an antibacterial effect on several respiratory tract pathogens (Fabio et al., 2007).

Oregano: Oregano oil was found to kill antibiotic resistant strains of Staph, E. coli, Klebsiella pneumoniae, Helicobacter pylori, and Mycobacterium terrae (Preuss et al., 2005).

Tangerine: In rats with induced pulmonary fibrosis oral treatment of hydro-distilled tangerine essential oil suppressed body weight loss and significantly improved scores of alveolitis and fibrosis of lung tissue. The effects of tangerine essential oil on lung fibrosis were associated with free radical scavenging and antioxidant activity (Zhou et al., 2012).

Poison Ivy/Oak

Poison oak and poison ivy are plants with an oily sap called urushiol that causes an itchy rash when it comes into contact with the skin. Infection by poison oak or poison ivy is recognized by redness and itching of the skin, a rash, red bumps, and later oozing blisters. A rash caused by poison oak or by poison ivy usually lasts from 5–12 days.

Oils: rose, lavender, Joyful Blend, Roman chamomile

: Dilute as recommended, and apply 1–2 drops on location. Add 2–3 drops to 1 tsp. fractionated coconut oil, and apply on location.

Pollution

see *Purification*

Polyps

see *Colon:Polyps, Nose:Nasal Polyp*

Pregnancy/Motherhood

Pregnancy is the period of time (generally nine months) in which a woman carries a developing fetus in her uterus.

Oils: geranium, ylang ylang, lavender, grapefruit, Roman chamomile

Other Products: Cellular Vitality Complex, Chewable Multivitamin, Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Food Nutrient Complex for nutrients essential to support cellular health and body function.

—Anxiety/Tension: *see* *Calming*

—Baby (Newborn):

Oils: frankincense (1 drop on crown), myrrh (1 drop on umbilical cord and navel), Grounding Blend (1 drop on feet and spine)

: Apply as indicated above.

—Breasts:

In the first trimester of pregnancy, a woman's breasts become sore and tender as the body begins to prepare itself for breast-feeding. During pregnancy the breasts enlarge, the nipples grow larger and become darker, and the breasts may begin to leak colostrum—the first milk the body makes in preparation for the developing baby.

Oils: ⊖lavender (soothes), ⊖geranium (soothes), ⊖Roman chamomile (sore nipples), ⊖fennel (tones)

⊖: Add 3–5 drops to 1 Tbs. fractionated coconut oil, and massage on location.

–Delivery:

Delivery is the act or process of giving birth.

Oils: ⊖⊘lavender (stimulates circulation, calming, antiseptic), ⊖clary sage, ⊖Grounding Blend

⊖: Dilute as recommended, and apply 1–2 drops on hips, bottoms of feet, or abdomen. Add 3–5 drops to 1 Tbs. fractionated coconut oil, and massage on hips, bottoms of feet, or abdomen.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

–Avoid Episiotomy:

Oils: ⊖geranium

⊖: Add 5–10 drops to 1/2 tsp. olive oil, and massage perineum.

–Diffuse:

Oils: ⊘Calming Blend, ⊘Joyful Blend

⊘: Diffuse into the air.

–Uterus:

Oils: ⊖clary sage

⊖: Apply 1–3 drops around the ankles to help tone uterus.

–Transition:

Oils: ⊖basil

⊖: Dilute as recommended, and apply 1–2 drops to temples or abdomen.

–Early Labor:

Preterm labor is labor that begins before the 37th week of pregnancy. Babies born before the 37th week are considered premature. Signs of preterm labor include contractions every 10 minutes or more often, cramps, low backache, pelvic pressure, and change in vaginal discharge (fluid or blood).

Oils: ⊖lavender

⊖: Gently apply 1–3 drops on stomach or on heart area to help stop.

–Energy:

Blend 1: Combine 2 drops Roman chamomile, 2 drops geranium, and 2 drops lavender in 2 tsp. fractionated coconut oil, and massage into the skin.

–Hemorrhaging:

Postpartum Hemorrhaging is excessive bleeding following childbirth. It is commonly defined as losing 500 ml of blood after vaginal birth and 1000 ml of blood after a cesarean birth. Postpartum hemorrhaging generally occurs within 24 hours following the birth and can be life threatening if not stopped.

Oils: ⊖helichrysum

⊖: Apply 1–3 drops on lower back to help prevent hemorrhaging.

–High Blood Pressure:

High blood pressure can potentially be dangerous in pregnancy. High blood pressure can cause a decreased flow of blood to the placenta, slowing down the baby's growth; premature placenta separation from the uterus, taking away the baby's oxygen and nutrients and causing heavy bleeding in the mother; premature birth; and the risk of future disease. Pregnancy can in some cases actually cause a woman's blood pressure to increase.

Oils: ⊘⊖ylang ylang○, ⊖⊘eucalyptus○, ⊖⊘lavender, ⊖⊘clove, ⊖⊘clary sage, ⊖⊘lemon. **Note:** Avoid rosemary, thyme, and possibly peppermint.

Bath 1: Place 3 drops ylang ylang in bathwater, and bathe in the evening twice a week.

Blend 2: Combine 5 drops geranium, 8 drops lemongrass, and 3 drops lavender in 1 oz. fractionated coconut oil. Rub over heart and on reflex points on left foot and hand.

⊖: Dilute as recommended, and apply on location, on reflex points on feet and hands, and over heart.

⊘: Diffuse into the air. Apply oils to hands, and inhale oils from hands cupped over the nose. Inhale oil applied to a tissue or cotton wick.

—Labor (during):

Oils: clary sage (may combine with fennel)

☉: Apply 3 drops around ankles or on abdomen.

—Labor (post):

Oils: lavender, geranium

☉: Dilute as recommended, and apply 1–3 drops on abdomen, ankles, or bottoms of feet.

—Lactation (Milk Production):

Lactation is the production and secretion of milk from the mammary glands of females for the nourishment of their young offspring. Lactation is commonly referred to as "breast-feeding."

Oils: clary sage (start production), fennel or basil (increase production), peppermint (decrease production), Blend for Women (contains jasmine that may help decrease production)

☉: Dilute as recommended, and apply 1–2 drops on breasts. Apply peppermint with cold compress to help reduce production. *Caution: Fennel should not be used for more than 10 days, as it will excessively increase flow through the urinary tract.*

—Mastitis: *see also* Antibacterial.

Mastitis is a breast infection occurring in women who are breast-feeding. Mastitis causes the breast to become red, swollen, and very painful. Symptoms of mastitis include breast tenderness, fever, general lack of well-being, skin redness, and a breast that feels warm to the touch. Mastitis generally occurs in just one breast, not in both.

Oils: lavender, Invigorating Blend (combine with lavender), patchouli

☉: Dilute as recommended, and apply 1–2 drops on breasts.

—Miscarriage (after):

A miscarriage is a pregnancy that ends on its own within the first 20 weeks. Signs of a miscarriage include vaginal bleeding, fluid or tissue being ejected from the vagina, and pain and cramping in the abdomen or lower back. Miscarriages occur before the baby is developed enough to survive. About half of all pregnancies end in miscarriage, but most happen too early for the mother to be aware that it has occurred. Women who miscarry after about 8 weeks of pregnancy should consult their doctor as soon as possible afterwards to prevent any future complications.

Oils: frankincense, grapefruit, geranium, lavender, Roman chamomile

☉: Dilute 5–6 drops in 1 Tbs. fractionated coconut oil, and massage on back, legs, and arms. Add 3–4 drops to warm bathwater, and bathe.

—Morning Sickness:

Morning sickness is the nauseated feeling accompanying the first trimester of pregnancy for many women. Morning sickness can often include vomiting. For most women, morning sickness begins around the sixth week of pregnancy and ends around the twelfth week. Although it is called "morning" sickness, the symptoms can occur at any time during the day.

Oils: ginger, peppermint, lemon

☉: Dilute as recommended, and apply 1–3 drops on ears, down jaw bone, and on reflex points on the feet.

💧: Place 1–3 drops in empty capsule; swallow capsule.

🌀: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale. Apply 1 drop on pillow to inhale at night.

—Placenta:

The placenta is the organ responsible for sustaining life in an unborn baby. The placenta attaches to the uterus wall and connects to the mother's blood supply to provide nutrients and oxygen for the fetus. The placenta plays other essential roles as well: It removes waste created by the fetus, triggers labor and delivery, and protects the fetus against infection.

Oils: basil (to help retain)

☉: Dilute as recommended, and apply 1–2 drops on lower abdomen and reflex points on the feet.

—Postpartum Depression:

Postpartum depression is depression sometimes experienced by mothers shortly after giving birth. New mothers may experience symptoms such as irritableness, sadness, uncontrollable emotions, fatigue, anxiety, difficulty sleeping, thoughts of suicide, hopelessness, and guilt. Postpartum depression is typically thought to result from a hormonal imbalance caused by the pregnancy and childbirth.

Oils: ⊘⊖Joyful Blend, ⊘⊖lemon O, ⊘⊖lavender O, ⊘⊖frankincense O, ⊘⊖clary sage, ⊘⊖geranium, ⊘grapefruit, ⊘⊖bergamot, ⊘⊖Grounding Blend, ⊘⊖myrrh, ⊘orange

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊖: Dilute as recommended, and apply 1–2 drops to temple or forehead. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and use as massage oil. Add 1–3 drops to warm bathwater, and bathe.

—**Preeclampsia**: *see also Pregnancy/Motherhood: High Blood Pressure*

Preeclampsia, also known as toxemia, is pregnancy-induced high blood pressure. Symptoms include protein in the urine, elevated blood pressure levels, sudden weight gain, blurred vision, abdominal pains in the upper-right side, and swelling in the hands and face. Women suffering from preeclampsia are often put on bed rest for the remainder of the pregnancy to ensure the safety of the mother and baby.

Oils: ⊖⊘cypress

⊖: Dilute 1:1 in fractionated coconut oil, and apply 1–2 drops on bottoms of feet and on abdomen.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

—**Self Love**:

Oils: ⊘Joyful Blend

⊘: Diffuse into the air. Wear as perfume.

—**Stretch Marks**: *see Skin:Stretch Marks*

📖: **Additional Research:**

Lavender: A triple blind randomized placebo-controlled trial, consisting of 60 subjects and evaluating the use of lavender oil for Cesarean postoperative pain management, found that inhalation of lavender (when compared to inhalation of a placebo) decreased postoperative pain and increased patient satisfaction. Furthermore, patients inhaling lavender oil required significantly lower dosages of Diclofenac suppository as a supplemental analgesic drug than the placebo group. The researchers state that lavender essential oil is not recommended as the sole analgesic treatment (Olapour et al., 2013).

Ylang ylang: Subjects who had ylang ylang oil applied to their skin had decreased blood pressure, increased skin temperature, and reported feeling more calm and relaxed compared to subjects in a control group (Hongratanaworakit et al., 2006).

Ylang ylang: Inhaled ylang ylang oil was found to decrease blood pressure and pulse rate and to enhance attentiveness and alertness in volunteers compared to an odorless control (Hongratanaworakit et al., 2004).

Eucalyptus: Treatment of rats with 1,8-cineole (or eucalyptol—found in eucalyptus, rosemary, and marjoram) demonstrated an ability to lower mean aortic pressure (blood pressure), without decreasing heart rate, through vascular wall relaxation (Lahlou et al., 2002).

Jasmine: Jasmine flowers applied to the breast were found to be as effective as the antilactation drug bromocriptine in reducing breast engorgement, milk production, and analgesic (pain-relieving drug) intake in women after giving birth. (Shrivastav et al., 1988).

Ginger: Ginger root given orally to pregnant women was found to decrease the severity of nausea and frequency of vomiting compared to control (Vutyavanich et al., 2001).

Lemon: A randomized clinical trial carried out on 100 pregnant women suffering from mild to moderate nausea found inhalation of lemon essential oil to be more effective at preventing nausea than inhalation of a carrier oil on days two and four of a four day trial (Yavari kia et al., 2014).

Patchouli: Patchouli alcohol (a tricyclic sesquiterpene and an essential oil of *Pogostemon cablin*) was found to inhibit chemically induced mastitis in a mouse model by inhibiting inflammation, suggesting patchouli may prevent mastitis (Li et al., 2014).

Lemon: Lemon oil vapor was found to have a strong antistress and antidepressant effects on mice subjected to several common stress tests (Komiya et al., 2006).

Lemon: Lemon oil and its component, citral, were found to decrease depressed behavior in a similar manner to antidepressant drugs in rats involved in several stress tests (Komori et al., 1995).

Lemon: In 12 patients suffering from depression, it was found that inhaling citrus aromas reduced the needed doses of antidepressants, normalized neuroendocrine hormone levels, and normalized immune function (Komori et al., 1995).

Lavender: Female students suffering from insomnia were found to sleep better and to have a lower level of depression during weeks they used a lavender fragrance when compared to weeks they did not use a lavender fragrance (Lee et al., 2006).

Laveder: Incensole acetate was found to open TRPV receptor in mice brain, a possible channel for emotional regulation (Moussaieff et al., 2008).

Prostate

The prostate gland is a small organ just beneath that bladder that is part of the male reproductive system. Its primary function is to create and store fluid that helps nourish and protect the sperm.

Oils: ⊖helichrysum, ⊖frankincense, ⊖juniper berry

—**Benign Prostatic Hyperplasia**:

The size of the prostate begins at about the same size as a walnut but increases in size as a male ages. If the prostate grows too large, it can block passage of urine from the bladder through the urethra. This blockage can lead to increased risk for developing urinary tract stones, infections, or damaged kidneys.

Oils: ⊖fennel

—**Prostate Cancer**: *see Cancer:Prostate*

—**Prostatitis**:

Prostatitis is an inflamed prostate, typically due to infection. This can cause pain in the lower back and groin area, painful urination, and the need to urinate frequently.

Oils: thyme, cypress, lavender

: Dilute as recommended, and apply to the posterior, scrotum, ankles, lower back, or bottoms of feet. Add 5 drops to 1 Tbs. fractionated coconut oil, insert into rectum, and retain throughout the night.

Psoriasis

Psoriasis is a skin condition characterized by patches of red, scaly skin that may itch or burn. The most commonly affected areas are the elbows, knees, scalp, back, face, palms, and feet. But other areas can be affected as well. Psoriasis doesn't have a known cure or cause, but it is thought an auto-immune disorder may play a role. Psoriasis tends to be less severe in the warmer months.

Oils: helichrysum, thyme, lavender, melaleuca, Roman chamomile, cedarwood, bergamot

Blend 1: Combine 2 drops Roman chamomile with 2 drops lavender, and apply on location.

: Dilute as recommended, and apply 1–2 drops on location.

Pulmonary

see Respiratory System:Lungs

Purification

Oils: Cleansing Blend, lemon, lemongrass, eucalyptus, melaleuca, cedarwood, orange, fennel

—Air:

Oils: lemon, peppermint, Cleansing Blend

—Cigarette Smoke:

Oils: Cleansing Blend

—Dishes:

Oils: lemon

—Water:

Oils: lemon, Cleansing Blend, peppermint

: Diffuse into the air. Add 10–15 drops to 1 oz. distilled water in a small spray bottle; shake well, and mist into the air.

: Add 1–2 drops to dishwater for sparkling dishes and a great smelling kitchen. Add 1–2 drops to warm bathwater, and bathe. Add 1–2 drops to bowl of water, and use to clean the outside of fruit and vegetables.

: Add 1 drop oil to 12–16 oz. of drinking water to help purify.

Pus

see Infection

Radiation

Radiation is energy emitted from a source and sent through space or matter. Different forms of radiation can include light, heat, sound, radio, micro-waves, gamma rays, or X-rays, among others. While many forms of radiation are around us every day and are perfectly safe (such as light, sound, and heat), frequent or prolonged exposure to high-energy forms of radiation can be detrimental to the body, possibly causing DNA mutation, damaged cellular structures, burns, cancer, or other damage.

Oils: peppermint, sandalwood

—Gamma Radiation:

Oils: peppermint

—Radiation Therapy:

Radiation treatments can produce tremendous toxicity within the liver. Cut down on the use of oils with high phenol content to prevent increasing liver toxicity. Oils with high phenol content include wintergreen, birch, clove, basil, fennel, oregano, thyme, melaleuca, and cinnamon.

—Ultraviolet Radiation:

Oils: sandalwood, frankincense, melaleuca, thyme, clove

—Weeping Wounds From:

Oils: melaleuca, thyme, oregano

: Place 1–2 drops under the tongue or place 2–3 drops in an empty capsule, and swallow.

: Dilute as recommended, and apply 1–2 drops on location.

: **Additional Research:**

Peppermint: In mice exposed to whole-body gamma irradiation, only 17% of mice who had been fed peppermint oil died; while 100% of mice who did not receive peppermint oil died. It was also found that the mice pre-fed peppermint oil were able to return blood cell levels to normal after 30 days, while control mice were not (and consequently died)—suggesting a protective or stimulating effect of the oil on blood stem cells (Samarth et al., 2004).

Peppermint: Peppermint extract fed orally to mice demonstrated the ability to protect the testis from gamma radiation damage (Samarth et al., 2009).

Peppermint: Peppermint oil fed to mice prior to exposure to gamma radiation was found to decrease levels of damage from oxidation, as compared to mice not pretreated with peppermint (Samarth et al., 2006).

Peppermint: Mice treated with oral administration of peppermint extract demonstrated a higher ability to tolerate gamma radiation than non-treated mice (Samarth et al., 2003).

Peppermint: Mice pretreated with peppermint leaf extract demonstrated less bone marrow cell loss than mice not pretreated with peppermint when exposed to gamma radiation (Samarth et al., 2007).

Sandalwood: Pretreatment with alpha-santalol before UVB (ultraviolet-b) radiation significantly reduced skin tumor development and multiplicity and induced proapoptotic and tumor-suppressing proteins (Arasada et al., 2008)

Sandalwood: A solution of 5% alpha-santalol (from sandalwood) was found to prevent skin-tumor formation caused by ultraviolet-b (UVB) radiation in mice (Dwivedi et al., 2006).

Melaleuca: Melaleuca alternifolia oil was found to mediate the reactive oxygen species (ROS) production of leukocytes (white blood cells), indicating a possible anti-inflammatory activity (Caldefie-Chézet et al., 2004).

Thyme: Various essential oils demonstrated an antioxidant effect toward skin lipid squalene oxidized by UV irradiation, with a blend of thyme and clove oil demonstrating the highest inhibitory effect (Wei et al., 2007).

Clove: Various essential oils demonstrated an antioxidant effect toward skin lipid squalene oxidized by UV irradiation, with a blend of thyme and clove oil demonstrating the highest inhibitory effect (Wei et al., 2007).

Rashes

see Skin:Rashes

Raynaud's Disease

see also Arteries, Cardiovascular System:Circulation

Raynaud's disease is a condition that causes the arteries supplying blood to the skin to suddenly narrow and inhibit blood circulation. As a result, specific areas of the body feel numb and cool. The most commonly affected areas are the toes, fingers, nose, and ears. During an attack, the skin turns white and then blue. As circulation returns and warms the affected areas, a prickling, throbbing, stinging, or swelling sensation often accompanies it. These attacks are often triggered by cold temperatures and by stress.

Oils: ⊖⊘cypress, ⊖⊘rosemary, ⊖⊘geranium, ⊖⊘helichrysum, ⊖⊘fennel, ⊖⊘clove, ⊖⊘lavender

⊖: Dilute as recommended, and apply 1–2 drops on the affected area, to carotid arteries, and on reflex points on the feet.

⊘: Diffuse into the air. Inhale oil directly from bottle, or inhale oil that is applied to hands, tissue, or cotton wick.

Relaxation

Relaxation is a state of rest and tranquility, free from tension and anxiety.

Oils: ⊘⊖lavender○, ⊘⊖ylang ylang○, ⊘lemon○, ⊖Massage Blend, ⊖⊘Roman chamomile, ⊘⊖geranium, ⊘⊖frankincense, ⊘⊖sandalwood, ⊘⊖clary sage

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊖: Add 5–10 drops to 1 Tbs. fractionated coconut oil (or another carrier oil), and use as massage oil. Place 1–2 drops in warm bathwater, and bathe.

▯: **Additional Research:**

Lavender: Nurses working in an ICU setting demonstrated decreased perception of stress when receiving a topical application of Lavandula angustifolia and Salvia sclarea essential oils (Pemberton et al., 2008).

Lavender: Subjects who smelled a cleansing gel with lavender aroma were more relaxed and able to complete math computations faster (Field et al., 2005).

Lavender: Subjects exposed to 3 minutes of lavender aroma were more relaxed and able to perform math computations faster and more accurately (Diego et al., 1998).

Lavender: Mice who inhaled lavender were found to have a decreased motility (natural movement) dependent on exposure time. Additionally, mice injected with caffeine (causing a hyperactivity) were found to reduce their movement to near normal levels after inhaling lavender (Buchbauer et al., 1991).

Ylang ylang: Subjects who had ylang ylang oil applied to their skin had decreased blood pressure, increased skin temperature, and reported feeling more calm and relaxed compared to subjects in a control group (Hongratanaworakit et al., 2006).

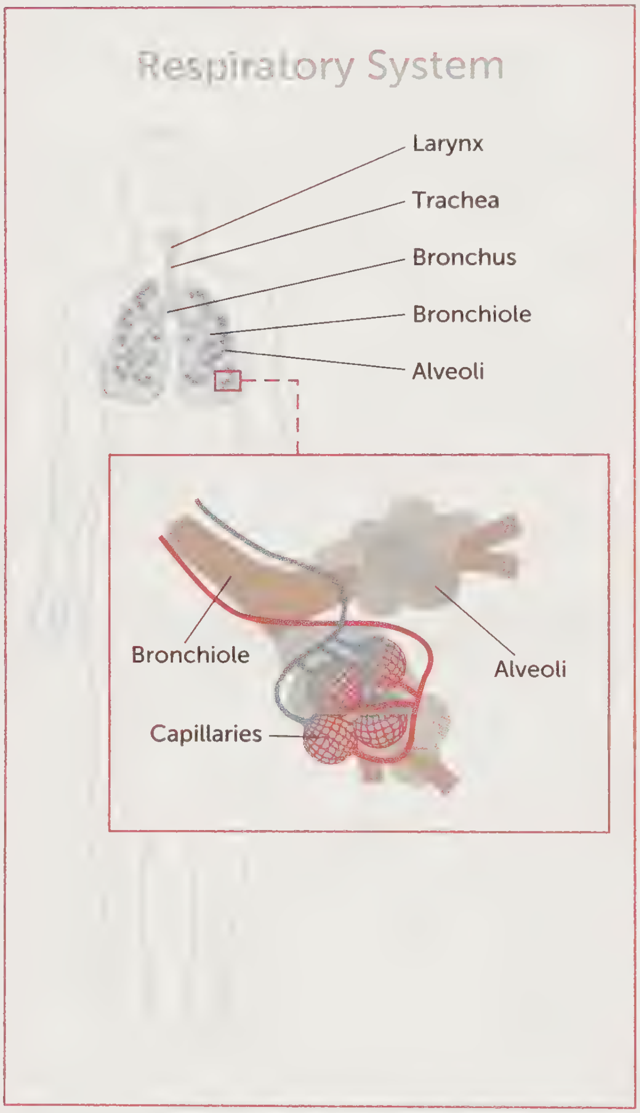
Lemon: Lemon oil was found to have an antistress effect in mice involved in several behavioral tasks (Komiya et al., 2006).

Respiratory System

The respiratory system's primary purposes are to supply the blood with oxygen that is then delivered to all parts of the body and to remove waste carbon dioxide from the blood and eliminate it from the body. The respiratory system consists of the mouth, nose, and pharynx (through which air is first taken in), larynx (voice box), trachea (airway leading from the larynx to the lungs), bronchi (which branch off from the trachea and into the lungs), bronchioles (smaller tubes that branch off from the bronchi), alveoli (tiny sacs filled with capillaries that allow inhaled oxygen to be transferred into the blood and carbon dioxide to be expelled from the blood into the air in the lungs), pleura (which covers the outside of the lungs and the inside of the chest wall), and diaphragm (a large muscle at the bottom of the chest cavity that moves to pull air into the lungs (inhale) and to push air out of the lungs (exhale)).

Oils: Respiratory Blend, eucalyptus, peppermint, white fir, cinnamon, Protective Blend, cardamom, melaleuca, clary sage, fennel, helichrysum, marjoram, oregano, bergamot, clove, frankincense, lemon, rosemary, lime

Blend 1: Combine 5 drops eucalyptus, 8 drops frankincense, and 6 drops lemon. Apply to bottoms of feet; or add to 1 oz. (2 Tbs.) fractionated coconut oil, and apply as a hot compress on chest.



Recipe 1: Combine 10 drops eucalyptus and 10 drops myrrh with 1 Tbs. fractionated coconut oil. Insert rectally for overnight retention enema.

Other Products: Respiratory Lozenge Drops, Seasonal Blend Softgels

—Asthma: *see Asthma*

—Breathing:

Oils: Respiratory Blend, cinnamon, frankincense, rosemary, thyme, marjoram, juniper berry, ginger

Other Products: Respiratory Lozenge Drops

—Bronchitis: *see Bronchitis*

—Cystic Fibrosis:

Cystic fibrosis is an inherited genetic condition that causes glands the lungs and other organs to secrete less hydrated, more sticky secretions. The stickiness of these secretions cause blockages and inflammation, damaging the lungs and other organs over time.

Oils: bergamot

—Hyperpnea:

Hyperpnea is rapid or heavy breathing that occurs normally as a result of strenuous physical exertion and abnormally in conjunction with fever and disorders.

Oils: ylang ylang

—Lungs:

The lungs are paired organs located on either side of the heart. The lungs function to exchange oxygen and carbon dioxide (breathing). Oxygen passes into the blood by inhaling, and exhaling expels carbon dioxide. The lungs keep the body supplied with the oxygen necessary to keep cells alive. The lung on the right side of the body contains three lobes (sections) and is slightly larger than the lung on the left side of the body, which has two lobes.

Oils: Respiratory Blend, eucalyptus, sandalwood, frankincense, Joyful Blend, Protective Blend (for infections)

Other Products: Detoxification Complex to help support healthy lung functioning.

—Oxygen:

Oils: frankincense, sandalwood, cedarwood

—Pleurisy:

Pleurisy is an inflammation of the moist membrane (pleura) that surrounds the lungs and lines the rib cage. Pleurisy is characterized by a dry cough, chest pain, and difficulty breathing. Viral infection is the most common cause of pleurisy; but lung infections, chest injuries, and drug reac-

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

tions are also possible causes. Pleurisy usually lasts between a few days and a couple weeks.

Oils: ⊘⊖cypress, ⊘⊖thyme

—Pneumonia: *see Pneumonia*

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

⊖: Dilute as recommended, and apply to chest, sinuses, neck, or reflex points on the feet. Add 2–3 drops to water, and gargle. Apply to chest as warm compress. Add 20 drops to 1 Tbs. fractionated coconut oil, and insert rectally for overnight retention enema.

O: Take supplements as directed on package.

: **Additional Research:**

Eucalyptus: Extracts from eucalyptus and thyme were found to have high nitrous oxide (NO) scavenging abilities and inhibited NO production in macrophage cells. This could possibly explain their role in aiding respiratory inflammatory diseases (Vigo et al., 2004).

Eucalyptus: Eucalyptus oil was found to have an anti-inflammatory and mucin-inhibitory effect in rats with lipopolysaccharide-induced bronchitis (Lu et al., 2004).

Eucalyptus: Therapy with 1,8 cineole (eucalyptol) in both healthy and bronchitis-afflicted humans was shown to reduce production of LTB4 and PGE2—both metabolites of arachidonic acid, a known chemical messenger involved in inflammation—in white blood cells (Juergens et al., 1998).

Peppermint: L-menthol was found to inhibit production of inflammation mediators in human monocytes (a type of white blood cell involved in the immune response) (Juergens et al., 1998).

Cinnamon: Vapor of cinnamon bark oil and cinnamic aldehyde was found to be effective against fungi involved in respiratory tract mycoses (fungal infections) (Singh et al., 1995).

Cinnamon: Cinnamon bark, lemongrass, and thyme oils were found to have the highest level of activity against common respiratory pathogens among 14 essential oils tested (Inouye et al., 2001).

Cardamom: Administration of cardamom to mice was found to have a protective effect against pan masala– (an herbal and tobacco blend sold in India) induced damage in the lungs of mice (Kumari et al., 2013)

Bergamot: Bergamot extract was found to display inhibitory activity on IL-8 gene expression (IL-8 is involved in the inflammatory processes associated with cystic fibrosis), indicating that bergamot may possess possible anti-inflammatory properties to reduce lung inflammation in cystic fibrosis patients (Borgatti et al., 2011).

Restlessness

see calming

Rheumatic Fever

see also Antibacterial

Rheumatic fever is the inflammation of the heart and joints in response to a strep throat or scarlet fever infection. This inflammation can cause permanent damage to the heart. Symptoms of rheumatic fever include painful and swollen joints, chest pain, fever, fatigue, the sensation of a pounding heartbeat, shortness of breath, rash, sudden jerky body movements, and unusual displays of emotion. Rheumatic fever is most common in children between ages 5 and 15.

Oils: ⊖ginger (for pain)

⊖: Dilute as recommended, and apply 1–2 drops on location.

Rheumatism

see Arthritis:Rheumatoid Arthritis

Rhinitis

see Nose:Rhinitis

Ringworm

see Antifungal:Ringworm

Sadness

see Grief/Sorrow

Salmonella

see Antibacterial, Food Poisoning

Scabies

see Skin:Scabies

Scarring

see Skin:Scarring, Tissue:Scarring

Schmidt's Syndrome

see Adrenal Glands:Schmidt's Syndrome

Sciatica

Sciatica is pain resulting from the irritation of the sciatic nerve. The sciatic nerve is the longest nerve in the body. It runs from the spinal cord through the buttock and hip area and down the back of each leg. When the sciatic nerve is pinched or irritated due to something such as a herniated disk, the pain experienced along the sciatic nerve is called "sciatica." Symptoms of sciatica include pain in the area, numbness and weakness along the sciatic nerve, tingling sensations, or a loss of bladder or bowel control.

Oils: ⊖peppermint, ⊖Roman chamomile, ⊖helichrysum, ⊖thyme, ⊖Soothing Blend (for pain), ⊖Grounding Blend, ⊖white fir, ⊖sandalwood, ⊖lavender, ⊖wintergreen

: Dilute as recommended, and apply 1–2 drops on lower back, buttocks, or legs. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on spine, back, legs, and bottoms of feet.

Scrapes

see *Wounds*

Scurvy

Scurvy is a disease caused by a deficiency of ascorbic acid (vitamin C). Some results of scurvy are general weakness, anemia, gum disease (gingivitis), skin hemorrhages, spots on the skin (usually the thighs and legs), and bleeding from the mucus membranes.

Oils: ginger

Other Products: Food Nutrient Complex contains vitamin C necessary for preventing scurvy.

: Dilute as recommended, and apply 1–2 drops over kidneys, liver, and reflex points on the feet.

: Take capsules as directed on package.

Sedative

see *Calming:Sedative*

Seizure

A seizure is an uncontrolled, abnormal electrical discharge in the brain which may produce a physical convulsion, minor physical signs, thought disturbances, or a combination of symptoms. The symptoms depend on what parts of the brain are involved.

Oils: clary sage, lavender, rose, peppermint, Grounding Blend, clove, Calming Blend, Joyful Blend

Other Products: Energy & Stamina Complex to help support healthy nerve function. Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Food Nutrient Complex contain omega fatty acids, minerals, and other nutrients that support healthy brain function.

–Convulsions:

A convulsion is the repeated, rapid contracting and relaxing of muscles resulting in the uncontrollable shaking of the body. Convulsions usually last about 30 seconds to 2 minutes and are often associated with seizures.

Oils: lavender, clary sage, Grounding Blend

–Epilepsy:

Epilepsy is a neurological condition where the person has recurring, unpredictable seizures. Epilepsy has many possible causes; although in many cases the cause is unknown. Possible causes may include illness, injury to the brain, or abnormal brain development.

Oils: clary sage

–Grand Mal Seizure:

The grand mal seizure, also known as the tonic-clonic seizure, is the most common seizure. The tonic phase lasts about 10–20 seconds. During this stage, the person loses consciousness, and the muscles contract—causing the person to fall down. During the clonic phase, the person experiences violent convulsions. This phase usually lasts less than two minutes.

Oils: Grounding Blend (on feet), Calming Blend (around navel), Joyful Blend (over heart)

Other Products: Food Nutrient Complex contains zinc and copper—an imbalance of zinc and copper has been theorized to play a role in grand mal seizures.

: Dilute as recommended, and apply 1–2 drops to back of neck, navel, heart, or reflex points on the feet.

: Take capsules as directed on package.

: Diffuse into the air.

: **Additional Research:**

Lavender: Linalool (found in several essential oils) was found to inhibit induced convulsions in rats by directly interacting with the NMDA receptor complex (Brum et al., 2001).

Rose: Aqueous and ethanolic extracts of *Rosa damascena* were found to have potential anticonvulsant effect in drug-induced seizure model mice (Hosseini et al., 2011).

Rose: Injection of rose essential oil before induction of amygdala kindling seizures in male rats significantly retarded the development of seizure stages and possessed the ability to counteract kindling stimulation when compared to the control group (Ramezani et al., 2008).

Peppermint: Mice pretreated with an injection of peppermint essential oil demonstrated no seizures and 100% post-treatment survival after being injected with a lethal dose of pentylenetetrazol (PTZ) to cause seizures. Seven other essential oils were also tested, but peppermint was the most successful at preventing seizures and death. All tested essential oil treated mice (except oregano which caused complete fatality before administering PTZ) demonstrated increased seizure latency and intensity when compared to the control (Koutroumanidou et al., 2013).

Clove: The aqueous and ethanolic extracts of clove were found to induce an anticonvulsive effect by increasing seizure latency in drug-induced seizure model mice, when compared to control (Hosseini et al., 2012).

Dill: The aqueous extract of *Anethum graveolens* was shown to have an anticonvulsant effect in a mouse model of epilepsy (Arash et al., 2013).

See the *Quick Usage Chart* inside the back cover for recommended dilutions.

Sexual Issues

—**Arousing Desire:** *see* Aphrodisiac

—**Frigidity:**

Female frigidity is a female's lack of sexual drive or her inability to enjoy sexual activities. This disorder has many possible physical and psychological causes, including stress, fatigue, guilt, fear, worry, alcoholism, or drug abuse.

Oils: ⊘⊖clary sage, ⊘⊖ylang ylang, ⊘⊖Blend for Women, ⊘⊖rose

—**Impotence:**

Impotence in men, also known as erectile dysfunction, is the frequent inability to have or sustain an erection. This may be caused by circulation problems, nerve problems, low levels of testosterone, medications, or psychological stresses.

Oils: ⊖Oclary sage, ⊖Oclove, ⊖Orose, ⊖Oginger, ⊖Osandalwood

—**Libido (low):**

Libido is a term used by Sigmund Freud to describe human sexual desire. Causes for a lack of sexual desire can be both physical and psychological. Some possible causes include anemia, alcoholism, drug abuse, stress, anxiety, past sexual abuse, and relationship problems.

Oils: ⊘⊖ylang ylang, ⊘⊖Joyful Blend

Other Products: OEnergy & Stamina Complex

—**Men:**

Oils: ⊘⊖cinnamon, ⊘⊖ginger, ⊘⊖myrrh

—**Women:**

Oils: ⊘⊖clary sage, ⊖geranium

⊘: Diffuse into the air. Dissolve 2–3 drops in 2 tsp. pure grain or perfumers alcohol, combine with distilled water in a 1 or 2 oz. spray bottle, and spray into the air or on clothes or bed linens.

⊖: Dilute as recommended, and wear on temples, neck, or wrists as perfume or cologne. Combine 3–5 drops of your desired essential oil with 1 Tbs. fractionated coconut oil to use as a massage oil. Combine 1–2 drops with 1/4 cup Therapeutic Bath Salts, and dissolve in warm bathwater for a romantic bath.

O: Take capsules as directed. Place 1–2 drops oil in an empty capsule, and swallow.

Sexually Transmitted Diseases (STD)

see AIDS/HIV, Herpes Simplex

Shingles

see also Antiviral, Childhood Diseases:Chickenpox, Nervous System:Neuralgia

Shingles is a viral infection caused by the same virus that causes chickenpox. After a person has had chickenpox, the virus lies dormant in the nervous system. Years later, that virus can be reactivated by stress, immune deficiency, or disease and cause shingles. Symptoms of shingles start with tingling, pain, neuralgia, or itching of an area of skin and become visually obvious as red blisters form in that same area along the nerve path, forming a red band on the skin. Blisters most commonly appear wrapping from the middle of the back to the middle of the chest but can form on the neck, face, and scalp as well. Another name for shingles is herpes zoster.

Oils: ⊖melaleuca, ⊖eucalyptus, ⊖lavender, ⊖lemon, ⊖geranium, ⊖bergamot

Blend 1: Combine 10 drops lavender, 10 drops melaleuca, and 10 drops thyme with 1 Tbs. fractionated coconut oil. Apply on feet and on location.

⊖: Dilute as recommended, and apply 1–2 drops on location. Add 5–10 drops essential oil to 1 Tbs. fractionated coconut oil, and massage on location and on bottoms of feet.

Shock

see also Cardiovascular System: Circulation, Cardiovascular System:Heart

Shock is a life-threatening condition where the body suffers from severely low blood pressure. This can be caused by low blood volume due to bleeding or dehydration, inadequate pumping of the heart, or dilation of the blood vessels due to head injury, medications, or poisons from bacterial infections. Shock can cause pale or bluish skin that feels cold or clammy to the touch, confusion, rapid breathing, and a rapid heartbeat. Without the needed oxygen being sent to the body's tissues and cells, the organs can shut down and, in severe cases, can lead to death. Shock often accompanies severe injuries or other traumatic situations. A person suffering from shock should be made to lie down with the feet elevated above the head, be kept warm, and have the head turned to the side in case of vomiting. Check breathing often, and ensure that any visible bleeding is stopped. Get emergency medical help as soon as possible.

Oils: peppermint, Roman chamomile helichrysum (may help stop bleeding), melaleuca, Joyful Blend, ylang ylang, Grounding Blend, myrrh, melissa, basil, rosemary

: Dilute as recommended, and apply 1–2 drops on back of neck, feet, over heart, or on front of neck.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Shoulder

see Joints:Shoulder

Sinuses

Sinuses are several hollow cavities within the skull that allow the skull to be more lightweight without compromising strength. These cavities are connected to the nasal cavity through small channels. When the mucous membrane lining these channels becomes swollen or inflamed due to colds or allergies, these channels can become blocked—making it difficult for the sinuses to drain correctly. This can lead to infection and inflammation of the mucous membrane within the sinuses (sinusitis). There are sinus cavities behind the cheek bone and forehead and near the eyes and nasal cavity.

Oils: helichrysum, eucalyptus, Respiratory Blend, peppermint, Protective Blend, cedarwood

—Sinusitis:

Oils: eucalyptus, rosemary, Respiratory Blend, Digestive Blend, peppermint, melaleuca, white fir, ginger

Recipe 1: For chronic sinusitis, apply 1–2 drops Digestive Blend around navel four times daily; apply 2 drops peppermint under tongue two times daily.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale. Place 1–2 drops in a bowl of hot water, and inhale vapors.

: Dilute as recommended, and apply 1–2 drops along the sides of the nose or forehead (often clears out sinuses immediately).

Skeletal System

see Bones

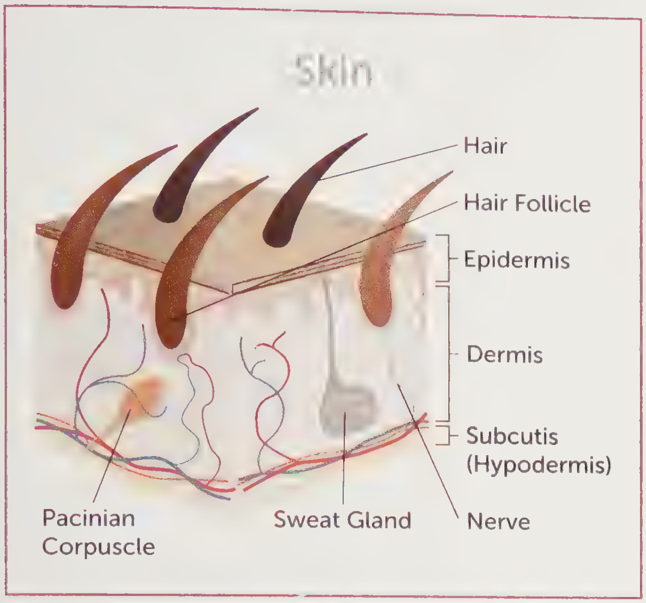
Skin

see also Acne, Antibacterial, Antifungal, Boils, Burns, Foot, Cancer:Skin/Melanoma

The skin is the organ the covers the body, offering the first layer of protection to the internal organs and tissues from exposure to the environment and fungal, bacterial, and other types of infection. It helps regulate body heat and helps prevent evaporation of water from the body. The skin also carries nerve endings that allow the body to sense touch, heat, and pain. The skin is comprised of three layers. The upper layer is the epidermis, the middle layer is the dermis, and the deeper layer is the hypodermis (or subcutis layer).

Oils: peppermint, melaleuca, Topical Blend, Anti-Aging Blend, sandalwood, frankincense, lavender, myrrh, geranium, rosemary, Grounding Blend, ylang ylang, marjoram, cypress, juniper berry, cedarwood, Detoxification Blend, vetiver, arborvitae, helichrysum, lemon, orange, lime, patchouli

Other Products: Anti-Aging Moisturizer, Facial Cleanser, Hydrating Cream, Hydrating Serum, Invigorating Scrub, Skin Toner, Two-Part Facial System, and Skin Serum for vibrant, youthful-looking skin. Topical Face Wash and Topical Facial Lotion to help improve tone and texture of the skin. Protective Hand Wash to help protect against harmful microorganisms on the skin. Invigorating and Calming Bath Bars, or Hand and Body Lotion to help cleanse and moisturize the skin. Essential Ointment to help cleanse and support the skin's natural healing process. Essential Oil Omega Complex or Vegan Essential Oil Omega Complex, Omega-3 Fish Oil, Cellular Vitality Complex, Chewable Multivitamin, Food Nutrient Complex contain omega fatty acids and other nutrients essential for healthy skin cell function. Detoxification Complex to help support healthy cleansing and filtering of the skin.



: Dilute as recommended, and apply 1–2 drops on location. Add 5–10 drops to 2 Tbs. fractionated coconut oil, and use as massage oil. Add 1 drop essential oil to 1 tsp. unscented lotion, and apply on the skin. Add 1–2 drops to 1 Tbs. bath or shower gel, and apply to skin. Apply foaming hand wash to skin instead of soap, or use bath bars when washing hands or bathing.

: Take capsules as directed on package. Add 3–5 drops of oil to an empty capsule; swallow capsule.

—Acne: *see Acne*

—Boils: *see Boils*

—Burns: *see Burns*

—Callouses:

A callous is a flat, thick growth of skin that develops on areas of the skin where there is constant friction or rubbing. Callouses typically form on the bottoms of the feet but can also form on the hands or other areas of the body exposed to constant friction.

Oils: oregano, Topical Blend, Roman chamomile

: Dilute as recommended, and apply 1–2 drops on area.

—Chapped/Cracked:

Chapped or cracked skin is the result of the depletion of natural oils (sebum) in the skin, leading to dehydration of the skin beneath it. Some common causes for chapped skin include exposure to the cold or wind, repeated contact with soap or chemicals that break down oils, or a lack of essential fatty acids in the body.

Oils: myrrh, Topical Blend, Anti-Aging Blend

Other Products: Hand and Body Lotion and Hydrating Cream and Hydrating Serum to help moisturize and protect. Essential Ointment to help cleanse and support the skin's natural healing process. Essential Oil Omega Complex or Vegan Essential Oil Omega Complex or Omega-3 Fish Oil to help supply essential omega fatty acids necessary for healthy skin. Invigorating and Calming Bath Bars contain natural oils that help moisturize and soften the skin.

: Dilute as recommended, and apply 1–2 drops on location. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on location.

: Take capsules as directed on package.

—Corns: *see Foot:Corns*

—Dehydrated:

Oils: geranium, lavender, Anti-Aging Blend

Other Products: Hand and Body Lotion and Hydrating Cream and Hydrating Serum to help moisturize and protect. Invigorating and Calming Bath Bars contain natural oils that help moisturize and soften.

: Dilute as recommended, and apply 1–2 drops on location. Add 5–10 drops to 2 Tbs. fractionated coconut oil, and use as massage oil. Add 1 drop essential oil to 1 tsp. unscented lotion, and apply on the skin. Add 1–2 drops to 1 Tbs. bath or shower gel, and apply to skin.

—Dermatitis/Eczema:

Dermatitis is any inflammation of the upper layers of the skin that results in redness, itching, pain, or possibly blistering. It can be caused by contact with an allergen or irritating substance, fungal infection, dehydration, or possibly another medical condition.

Oils: Topical Blend, helichrysum, juniper berry, thyme, geranium, arborvitae, melaleuca, lavender, patchouli, bergamot, rosemary

: Add 5–10 drops to 1 Tbs. fractionated coconut oil, and apply on location. Dilute as recommended, and apply 1–2 drops on location.

—Diaper Rash: *see Children and Infants:Diaper Rash*

—Dry:

Oils: geranium, lavender, Roman chamomile, Anti-Aging Blend, sandalwood, lemon

Other Products: Anti-Aging Moisturizer and Hydrating Cream and Hydrating Serum to help relieve dryness and reduce the visible signs of aging. Hand and Body Lotion to help moisturize and protect. Reveal Facial System to help promote healthy skin matrix building and moisture retention.

: Add 5–10 drops to 1 Tbs. fractionated coconut oil, and use as massage oil. Add 2–3 drops essential oil to 1 tsp. Hand and Body Lotion, and apply on the skin.

—Energizing:

Oils: bergamot, lemon

Other Products: Invigorating Scrub to polish and exfoliate the skin. Invigorating Bath Bar contains natural oatmeal kernels that help exfoliate.

: Dilute as recommended, and apply 1–2 drops on location. Add 5–10 drops to 2 Tbs. fractionated coconut oil, and use as massage oil. Add 1 drop essential oil to 1 tsp. Hand and Body Lotion, and apply on the skin. Add 1–2 drops to 1 Tbs. bath or shower gel, and apply to skin. Massage Invigorating Scrub over wet skin for up to one minute before rinsing with warm water.

—Facial Oils: *see also Dehydrated, Dry, Energizing, Oily/Greasy, and Revitalizing in this section for other oils that can be used for specific skin types/conditions.*

Oils: myrrh, sandalwood, vetiver

: Add 5–10 drops to 1 Tbs. fractionated coconut oil, and apply to face. Add 1–2 drops essential oil to 1 tsp. unscented lotion, and apply on the skin.

—Fungal Infections: *see Antifungal:Athlete's Foot, Antifungal:Ringworm*

—Impetigo:

Impetigo is a bacterial skin infection that causes sores and blisters full of a yellowish fluid. These sores can be itchy and painful and can easily be spread to other areas of the skin or to another person.

Oils: geranium, lavender, Topical Blend, myrrh

: Boil 4 oz. of water; cool; and add 5–10 drops essential oil: wash sores with this water, and then cover sores for an hour. Apply oils as a hot compress on location.

—Itching:

An itch is a tingling and unpleasant sensation that evokes the desire to scratch. Itching can be caused by various skin disorders or diseases, parasites such as scabies and lice, allergic reactions to chemicals or drugs, dry skin, insect bites, etc. Scratching the itching area too hard or too often can damage the skin.

Oils: peppermint, lavender, Calming Blend

Other Products: Invigorating Bath Bar contains natural oatmeal kernels that can help exfoliate skin and soothe itching.

: Dilute as recommended, and apply 1–2 drops on location and on ears. Wash body with Bath Bar.

—Melanoma: *see Cancer:Skin/Melanoma*

—Moles:

Moles are small growths on the skin of pigment-producing skin cells that usually appear brown or black in color. Moles typically appear within a person's first 20 years of life and usually stay with a person throughout his or her life. While moles are not dangerous, melanoma (a type of skin cancer that develops in pigment cells) can resemble a mole at first. Moles that vary in color or that appear to change fairly quickly in size or shape could be cancerous and should be examined.

Oils: frankincense, sandalwood, geranium, lavender

: Dilute as recommended, and apply 1 drop on location.

—Oily/Greasy:

Oils: lemon, Topical Blend, cypress, Topical Blend, frankincense, geranium, lavender, marjoram, orange, rosemary

Other Products: Topical Face Wash and Topical Facial Lotion to help balance skin sebum levels. Facial Cleanser to cleanse the skin and leave it feeling smooth and fresh.

: Add 5–10 drops to 1 Tbs. fractionated coconut oil, and use as massage oil. Use Facial Cleanser as directed on package.

—Psoriasis: *see Psoriasis*

—Rashes:

A rash is an area of irritated skin, redness, or red bumps on the body. Rashes may be localized or may cover large patches of the body. A rash may be caused by a chemical or allergen irritating the skin or may occur as a symptom of another medical condition or infection.

Oils: melaleuca, lavender, Roman chamomile

: Dilute as recommended, and apply 1–2 drops on location. Add 1–5 drops to 1 Tbs. fractionated coconut oil, and apply on location.

—Revitalizing:

Oils: cypress, lemon, Anti-Aging Blend, Topical Blend, fennel, lime

Other Products: Invigorating Scrub to polish and exfoliate the skin. Two-Part Facial System to help promote healthy skin matrix building and moisture retention. Invigorating Bath Bar contains natural oatmeal kernels that help exfoliate.

: Add 5–10 drops to 1 Tbs. fractionated coconut oil, and use as massage oil. Add 2–3 drops essential oil to 1 tsp. unscented lotion, and apply on the skin. Massage Invigorating Scrub over wet skin for up to one minute before rinsing with warm water.

—Ringworm: *see Antifungal:Ringworm*

—Scabies:

Scabies is an infestation of the skin by mites (*Sarcoptes scabei*) that burrow into the upper layers of the skin, causing small, extremely itchy bumps.

Oils: Protective Blend, Topical Blend, melaleuca, peppermint, lavender, bergamot

: Add 5–10 drops to 1 Tbs. fractionated coconut oil, and apply a small amount on location morning and night. Dilute as recommended, and apply 1–2 drops on location.

—Scarring:

Scars are fibrous connective tissue that is used to quickly repair a wound or injury in place of the regular skin or tissue.

Oils: lavender (burns), rose (helps prevent), frankincense (helps prevent), helichrysum (reduces), geranium, myrrh

Other Products: Essential Ointment to help cleanse and support the skin's natural healing process.

Blend 1: Combine 5 drops helichrysum and 5 drops lavender with 1 Tbs. sunflower oil or with liquid lecithin (an emulsifier extracted from eggs or soy), and apply on location.

Blend 2: Combine 1 drop lavender, 1 drop lemongrass, and 1 drop geranium; apply on location to help prevent scar formation.

: Dilute as recommended, and apply 1–2 drops on location.

—Sensitive:

Oils: lavender, geranium

: Dilute as recommended, and apply 1–2 drops on location.

—Skin Ulcers:

A skin ulcer is an open sore where the epidermis and possibly part or all of the dermis is missing, exposing the deeper layers of the skin. This can be caused by burns, pressure, friction, irritation, or infections damaging the upper layers of the skin.

Oils: lavender, myrrh, Topical Blend, helichrysum, Cleansing Blend

: Dilute as recommended, and apply 1–2 drops on location.

—Stretch Marks:

Stretch marks are thin purple or red areas of the skin that appear as the skin is rapidly stretched over a short period of time, stretching and tearing the dermis layer (middle layer) of the skin.

Many women notice the appearance of stretch marks in the last few months of pregnancy, but stretch marks can also appear on men or women during any period of rapid weight gain. These marks most often appear on the breasts, stomach, buttocks, thighs, and hips. Stretch marks tend to fade over time, but it is difficult to eliminate them completely.

Oils: lavender, myrrh

: Add 5–10 drops to 1 Tbs. fractionated coconut oil or hazelnut oil, and apply on location.

—Sunburn: *see* *Burns:Sunburn*

—Tones:

Oils: lemon

: Add 4–5 drops to 1 Tbs. fractionated coconut oil, and use as massage oil (avoid direct sunlight for 24 hours after application).

—Vitiligo:

Vitiligo is white patches of the skin caused by the death or dysfunction of pigment-producing cells in the area. While the exact cause is unknown, vitiligo may be caused by an immune or genetic disorder or may have a relationship to thyroid problems.

Oils: sandalwood, vetiver, frankincense, myrrh, Cleansing Blend

: Dilute as recommended, and apply 1–2 drops behind ears and on back of neck or on reflex points on the feet; then cup hands together, and inhale the aroma from the hands.

—Wrinkles:

A wrinkle is a fold or crease in the skin that develops as part of the normal aging process. Wrinkles are thought to be caused by a breakdown of collagen (a protein that gives structure to cells and tissue) in the skin, causing the skin to become more fragile and loose.

Oils: Anti-Aging Blend, lavender, myrrh, fennel, dill, geranium, frankincense, rose, rosemary, clary sage, cypress, helichrysum, lemon, orange, oregano, sandalwood, thyme, ylang ylang

Other Products: Anti-Aging Moisturizer and Youthful Moisturizing Lotion to help relieve dryness and reduce the visible signs of aging. Tightening Serum and Youthful Skin Toner to help tighten the skin to eliminate fine line and wrinkles. Hydrating Cream and Youthful Hydrating Serum to help promote fuller, smoother looking skin. Reveal Facial System and Youthful Skin Cleanser to help promote healthy skin matrix building and moisture retention.

Blend 1: Combine 1 drop frankincense, 1 drop lavender, and 1 drop lemon. Rub on morning and night around the eyes (be careful not to get in eyes).

Blend 2: Combine 1 drop sandalwood, 1 drop helichrysum, 1 drop geranium, 1 drop lavender, and 1 drop frankincense. Add to 2 tsp. unscented lotion, and apply to skin.

: Dilute as recommended, and apply 1–2 drops to skin. Add 5–10 drops to 1 Tbs. fractionated coconut oil or other carrier oil such as jojoba, apricot, hazelnut, or sweet almond, and apply on areas of concern. Add 3–5 drops to 1/2 cup Therapeutic Bath Salts, and dissolve in warm bathwater before bathing.

: **Additional Research:**

Myrrh: Myrrh essential oil was shown to be an efficient quencher of singlet oxygen (a type of antioxidant action) by its ability to decrease formation of squalene peroxide in UV irradiated sebum on the facial skin of human subjects. These findings suggest that topical application of myrrh essential oil can help decrease sebum damage and in turn protect skin from aging (Auffray 2007).

Dill: An in vitro study using human fibroblast cells from adult skin showed that dill extract was able to stimulate LOXL gene expression to induce elastogenesis in adult skin cells. These findings suggest that dill extract may be able to increase skin elasticity and firming (Cenizo et al., 2006).

Cilantro: Cilantro extract was found to protect human keratinocytes (epidermis cells) against H2O2-induced oxidative stress, suggesting that cilantro may be useful at protecting skin cells from oxidative damage (Park et al., 2012).

Sleep

see also Insomnia, Ions:Negative Ions

Sleep is a regular period in which the body suspends conscious motor and sensory activity. Sleep is thought to play a role in restoring and healing the body and processing the memories of the day.

Oils: lavender, Calming Blend, Roman chamomile, marjoram

Recipe 1: Combine 5 drops geranium and 5 drops lavender with 1/4 cup Therapeutic Bath Salts; dissolve in warm bathwater, and bathe in the evening to help promote a good night's sleep.

: Dilute as recommended, and apply 1–2 drops essential oil to spine, bottoms of feet, or back of neck. Add 1–2 drops to warm bathwater, and bathe before sleeping. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on back, arms, legs, and feet.

: Diffuse into the air. Add 1–2 drops to bottom of pillow before sleeping. Add 2–5 drops to 1 oz. distilled water in a small spray bottle, and mist into the air or on linens before sleeping.

: **Additional Research:**

Lavender and Roman Chamomile: A study with 56 percutaneous coronary intervention patients in an intensive care unit found that an aromatherapy blend of lavender, Roman chamomile, and neroli decreased anxiety and improved sleep quality when compared to conventional nursing intervention (Cho et al., 2013).

Slimming and Toning Oils

see Weight:Slimming/Toning

Smell (loss of)

see Nose:Olfactory loss

Smoking

see Addictions:Smoking, Purification:Cigarette Smoke

Snake Bite

see Bites/Stings:Snakes

Sores

see Wounds, Antibacterial, Antifungal, Antiviral

Sore Throat

see Throat:Sore, Antibacterial, Antiviral, Infection

Spasms

see Muscles/Connective Tissue, Digestive System

Spina Bifida

Spina bifida is a birth defect in which the vertebrae of the lower spine do not form correctly, leaving a gap or opening between them. In the most severe cases, this can cause the meninges (the tissue surrounding the spinal cord), or even the spinal cord itself, to protrude through the gap. If the spinal cord protrudes through the gap, it can prevent the nerves from developing normally, causing numbness, paralysis, back pain, and loss of bladder and bowel control and function. This latter type often also develops with a defect in which the back part of the brain develops in the upper neck rather than within the skull, often causing a mental handicap.

Oils: eucalyptus, lavender, Roman chamomile, lemon, orange, rosemary

Other Products: Cellular Vitality Complex contains 400 mg of folic acid, which has been found to significantly reduce the chance of spina bifida developing in infants if taken as a daily supplement by their mothers before conception(Centers for Disease Control and Prevention, 2004).

: Take capsules as directed on package

: Dilute as recommended, and apply 1–2 drops to bottoms of feet, along spine, on forehead, and on back of neck.

: Diffuse into the air.

Spine

see Back

Spleen

see also Lymphatic System

The spleen is a fist-sized spongy tissue that is part of the lymphatic system. Its purpose is to filter bacteria, viruses, fungi, and other unwanted substances out of the blood and to create lymphocytes (white blood cells that create antibodies).

Oils: marjoram

: Dilute as recommended and apply 1–2 drops over spleen or on reflex points on the feet. Apply as a warm compress over upper abdomen.

Sprains

see Muscles/Connective Tissue:Sprains

Spurs

See Bones:Bone Spurs

Stains

see Housecleaning:Stains

Staph Infection

See Antibacterial:Staph Infection

Sterility

see *Female Specific Conditions:Infertility, Male Specific Conditions:Infertility*

Stimulating

Oils: peppermint, Joyful Blend, eucalyptus, orange, ginger, grapefruit, rose, rosemary, basil

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: Dilute as recommended, and apply 1–2 drops to forehead, neck, or bottoms of feet. Add 1–2 drops to an unscented bath gel, and add to warm bathwater while filling; bathe. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and use as massage oil.

: Additional Research:

Eucalyptus: Imaging of the brain demonstrated that inhalation of 1,8-cineol (eucalyptol—a constituent of many essential oils, especially eucalyptus, rosemary, and marjoram) increased global cerebral blood flow after an inhalation-time of 20 minutes (Nasel et al., 1994).

Rosemary: Imaging of the brain demonstrated that inhalation of 1,8-cineol (eucalyptol—a constituent of many essential oils, especially eucalyptus, rosemary, and marjoram) increased global cerebral blood flow after an inhalation-time of 20 minutes (Nasel et al., 1994).

Stings

see *Bites/Stings*

Stomach

see *Digestive System:Stomach*

Strep Throat

see *Throat:Strep*

Stress

Stress is the body's response to difficult, pressured, or worrisome circumstances. Stress can cause both physical and emotional tension. Symptoms of stress include headaches, muscle soreness, fatigue, insomnia, nervousness, anxiety, and irritability.

Oils: lavender, Focus Blend, lemon, ylang ylang, bergamot, Joyful Blend, Calming Blend, grapefruit, Massage Blend, Roman chamomile, geranium, Grounding Blend, frankincense, marjoram

—Chemical:

Oils: lavender, rosemary, grapefruit, geranium, clary sage, lemon

—Emotional Stress:

Oils: Joyful Blend, clary sage, bergamot, geranium, Roman chamomile, sandalwood

—Environmental Stress:

Oils: bergamot, cypress, geranium, cedarwood

—Mental Stress:

Oils: lavender, Focus Blend, grapefruit, bergamot, sandalwood, geranium

—Performance Stress:

Oils: grapefruit, bergamot, ginger, rosemary

—Physical Stress:

Oils: Calming Blend, lavender, bergamot, geranium, marjoram, Roman chamomile, rosemary, thyme

—Stress Due to Tiredness or Insomnia:

Blend 1: Add 15 drops clary sage, 10 drops lemon, and 5 drops lavender to 2 Tbs. fractionated coconut oil. Massage on skin.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale. Wear as perfume or cologne.

: Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on skin. Add 1–2 drops to 1/4 cup Therapeutic Bath Salts, and dissolve in warm bathwater before bathing. Dilute as recommended, and apply 1–2 drops on neck, back, or bottoms of feet.

: Additional Research:

Lavender: Nurses working in an ICU setting demonstrated decreased perception of stress when receiving a topical application of Lavandula angustifolia and Salvia sclarea essential oils (Pemberton et al., 2008).

Lavender: Subjects placed in a small, soundproof room for 20 minutes were found to have reduced mental stress and increased arousal rate when exposed to the scent of lavender (Motomura et al., 2001).

Lemon: Lemon oil vapor was found to have strong antistress and antidepressant effects on mice subjected to several common behavioral stress tests (Komiya et al., 2006).

Ylang ylang: Subjects who had ylang ylang oil applied to their skin had decreased blood pressure, increased skin temperature, and reported feeling more calm and relaxed compared to subjects in a control group (Hongratanaworakit et al., 2006).

Stretch Marks

see Skin:Stretch Marks

Stroke

see also Brain, Blood:Clots, Cardiovascular System

A stroke occurs when the blood supply to the brain is interrupted. Within a few minutes, brain cells begin to die. The affected area of the brain is unable to function, and one or more limbs on one side of the body become weak and unable to move. Strokes can cause serious disabilities, including paralysis and speech problems.

Oils: Ø⊖cypress, Ø⊖helichrysum, 💧fennel, 💧cedarwood, 💧basil

—Muscular Paralysis:

Oils: ⊖lavender

Blend 1: Combine 1 drop basil, 1 drop lavender, and 1 drop rosemary, and apply to spinal column and paralyzed area.

Ø: Inhale oil directly or applied to hands, tissue, or cotton wick. Diffuse into the air.

⊖: Dilute as directed, and apply 1–2 drops to the back of the neck and the forehead.

📖: **Additional Research:**

Fennel: Both fennel oil and its constituent, anethole, were found to significantly reduce thrombosis (blood clots) in mice. They were also found to be free from the prohemorrhagic (increased bleeding) side effect that aspirin (acetylsalicylic acid) has (Tognolini et al., 2007).

Cedarwood: A chemical constituent, α-eudesmol, found in cedarwood oil demonstrated the ability to protect against brain injury after cerebral ischemia (stroke) in rats. Specifically, α-eudesmol was found to attenuate cerebral edema formation, reduce cerebral infarct size, and inhibit calcium-dependent glutamate release from synaptosomes (Asakura et al., 2000).

Basil: Oral pretreatment of basil extract was found to protect against brain damage induced by bilateral carotid artery occlusion in mice by reducing tissue death size and the oxidative degradation of lipids and restoring antioxidant content and motor functions. The researchers state that these results suggest that basil could be useful clinically in the prevention of stroke (Bora et al., 2011).

Sudorific

A sudorific is a substance that induces sweating.

Oils: ⊖thyme, ⊖rosemary, ⊖lavender, ⊖Roman chamomile, ⊖juniper berry

⊖: Add 5–10 drops to 1 Tbs. fractionated coconut oil, and apply to skin.

Suicidal Feelings

see Depression

Sunburn

see Burns:Sunburn

Sun Screen

Oils: ⊖helichrysum, ⊖arborvitae, ⊖sandalwood

⊖: Add 5–10 drops to 1 Tbs. fractionated coconut oil, and apply to the skin.

📖: **Additional Research:**

Sunscreen: Application of β-thujaplicin on mouse ear skin decreased sunburn cell formation by 40% as compared to untreated skin, suggesting that β-thujaplicin can inhibit ultraviolet B-induced apoptosis and skin damage (Baba et al., 1998).

Swelling

see Edema, Inflammation

Sympathetic Nervous System

see Nervous System:Sympathetic Nervous System

Tachycarida

see Cardiovascular System:Tachycarida

Taste (Impaired)

see also Nose:Olfactory Loss

Taste is the sensation of sweet, sour, salty, or bitter by taste buds on the tongue when a substance enters the mouth. This sensation, combined with the smell of the food, helps create the unique flavors we experience in food.

Oils: ⊖helichrysum, ⊖peppermint

⊖: Dilute as recommended, and apply 1 drop on the tongue or reflex points on the feet.

Teeth

see Oral Conditions

Temperature

See Cooling Oils, Warming Oils

Tendinitis

see Muscles/Connective Tissue:Tendinitis

Tennis Elbow

See Joints:Tennis Elbow

Tension

Oils: Calming Blend, lavender, Massage Blend, cedarwood, ylang ylang, Roman chamomile, frankincense, basil (nervous), bergamot (nervous), grapefruit

: Inhale oil applied to hands. Diffuse into the air.

: Add 3–5 drops to 1/2 cup Therapeutic Bath Salts, and dissolve in warm bathwater before bathing. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and use as massage oil.

Testes

Testes are the male reproductive organs. The testes are responsible for producing and storing sperm and male hormones such as testosterone. Hormones produced in the testes are responsible for the development of male characteristics: facial hair, wide shoulders, low voice, and reproductive organs.

Oils: rosemary

—Regulation:

Oils: clary sage, sandalwood, geranium

: Dilute as recommended, and apply 1–2 drops on location or on reflex points on the feet.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Throat

see also *Respiratory System, Neck*

Oils: cypress, oregano

—Congestion:

Oils: peppermint, myrrh

—Cough: *see* *Respiratory System*

—Dry:

Oils: lemon, grapefruit

—Infection In:

Oils: lemon, Protective Blend, peppermint, oregano, clary sage

Other Products: Protective Softgels

—Laryngitis: *see* *Laryngitis*

—Sore:

Oils: melaleuca, Protective Blend, oregano, sandalwood, lime, bergamot, geranium, ginger, myrrh

Other Products: Protective Throat Drops to soothe irritated and sore throats.

—Strep:

Strep throat is a throat infection caused by streptococci bacteria. This infection causes the throat and tonsils to become inflamed and swollen, resulting in a severe sore throat. Symptoms of strep throat include a sudden severe sore throat, pain when swallowing, high fever, swollen tonsils and lymph nodes, white spots on the back of the throat, skin rash, and sometimes vomiting. Strep throat should be closely monitored so that it doesn't develop into a more serious condition such as rheumatic fever or kidney inflammation.

Oils: Protective Blend, melaleuca, ginger, [illegible], [illegible]

—Tonsillitis:

Tonsillitis is inflammation of the tonsils, typically due to infection. Tonsillitis causes the tonsils to become swollen and painful. Symptoms of tonsillitis include sore throat, red and swollen tonsils, painful swallowing, loss of voice, fever, chills, headache, and white patches on the tonsils.

Oils: melaleuca, Protective Blend, ginger, lavender, lemon, bergamot, clove, thyme, Roman chamomile

: Add 1 drop to 8 oz. water (32 oz. for Protective Blend), and drink. Place 1 drop oil under the tongue. Take supplement as directed.

: Dilute as recommended, and apply 1–2 drops on throat or reflex points on the feet. Add 1–2 drops to 4 oz. (1/2 cup) water, and gargle.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

: **Additional Research:**

Protective Blend: Cinnamon, thyme, and clove essential oils demonstrated an antibacterial effect on several respiratory tract pathogens including streptococci (Fabio et al., 2007).

Protective Blend: Eucalyptus globulus oil was found to inhibit several bacteria types, including strep (Cermelli et al., 2008).

Thrush

see Antifungal:Candida, Antifungal:Thrush, Children and Infants:Thrush

Thymus

see also Immune System, Lymphatic System

The thymus is an organ responsible for the development of T cells needed for immune system functioning. The thymus is located just behind the sternum in the upper part of the chest.

Oils: ⊖Protective Blend

⊖: Dilute as recommended, and apply over thymus or on bottoms of feet.

Thyroid

see also Endocrine System

The thyroid is a gland located in the front of the neck that plays a key role in regulating metabolism. The thyroid produces and secretes the hormones needed to regulate blood pressure, heart rate, body temperature, and energy production.

—Dysfunction:

Oils: ⊖⊘clove

—Hyperthyroidism: *see also Grave's Disease*

Hyperthyroidism is when the thyroid gland produces too much of its hormones, typically due to the thyroid becoming enlarged. This can result in a noticeably enlarged thyroid gland (goiter), sudden weight loss, sweating, a rapid or irregular heartbeat, shortness of breath, muscle weakness, nervousness, and irritability.

Oils: ⊖⊘myrrh, ⊖⊘lemongrass

Blend 1: Combine 1 drop myrrh and 1 drop lemongrass, and apply on base of throat and on reflex points on the feet.

—Hypothyroidism: *see also Hashimoto's Disease*

Hypothyroidism is the result of an underactive thyroid. Consequently, the thyroid gland doesn't produce enough of necessary hormones. Symptoms include fatigue, a puffy face, a hoarse voice, unexplained weight gain, higher blood cholesterol levels, muscle weakness and aches, depression, heavy menstrual periods, memory problems, and low tolerance for the cold.

Oils: ⊖⊘peppermint, ⊖⊘clove, ⊖⊘lemongrass

Blend 2: Combine 1 drop lemongrass with 1 drop of either peppermint or clove, and apply on base of throat and on reflex points on the feet.

—Supports:

Oils: ⊖myrrh

⊖: Dilute as recommended, and apply 1–2 drops on base of throat, hands, or reflex points on the feet.

⊘: Diffuse into the air. Inhale oils applied to hands.

Tinnitus

see Ears:Tinnitus

Tired

see Energy

Tissue

Tissue refers to any group of similar cells that work together to perform a specific function in an organ or in the body. Some types of tissue include muscle tissue, connective tissue, nervous tissue, or epithelial tissue (tissue that lines or covers a surface, such as the skin or the lining of the blood vessels).

Oils: ⊖lemongrass, ⊖helichrysum, ⊖basil, ⊖marjoram, ⊖sandalwood, ⊖Roman chamomile, ⊖lavender

Other Products: ○Soothing Rub and ○Soothing Polyphenol Complex to help soothe muscle and connective tissues.

—Cleanses Toxins From:

Oils: ⊖fennel

—Connective Tissue: *see Muscles/Connective Tissue*

—Deep Tissue Pain: *see Pain:Tissue*

—Repair:

Oils: ⊖lemongrass, ⊖helichrysum, ⊖orange

—Regenerate:

Oils: ⊖lemongrass, ⊖helichrysum, ⊖geranium, ⊖patchouli

—Scarring:

Scar tissue is the dense and fibrous tissue that forms over a healed cut or wound. The scar tissue serves as a protective barrier but is still inferior to the healthy, normal tissue. In an area of scar tissue, sweat glands are nonfunctional, hair does not grow, and the skin is not as protected against ultraviolet radiation. Scars fade and become less noticeable over time but cannot be completely removed.

Oils: lavender (burns), rose (helps prevent), frankincense (helps prevent), helichrysum (reduces), geranium, myrrh

Blend 1: Combine 5 drops helichrysum and 5 drops lavender with 1 Tbs. sunflower oil or with liquid lecithin (an emulsifier extracted from eggs or soy), and apply on location.

Blend 2: Combine 1 drop lavender, 1 drop lemongrass, and 1 drop geranium, and apply on location to help prevent scar formation.

: Dilute as recommended, and apply 1–2 drops on location or on reflex points on the feet. Apply as warm compress. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on location.

Tonic

A tonic is a substance given to invigorate or strengthen an organ, tissue, or system or to stimulate physical, emotional, or mental energy and strength.

—General:

Oils: lemongrass, cinnamon, sandalwood, clary sage, grapefruit, ginger, geranium, marjoram, myrrh, orange, Roman chamomile, ylang ylang

—Heart:

Oils: thyme, lavender

—Nerve:

Oils: clary sage, melaleuca, thyme

—Skin:

Oils: lemon

—Uterine:

Oils: thyme

: Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on location. Dilute as recommended, and apply 1–2 drops to area or to reflex points on the feet. Add 1–2 drops to warm bathwater before bathing.

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Tonsillitis

see Throat:Tonsillitis

Toothache

see Oral Conditions:Toothache

Toxemia

see also Antibacterial, Pregnancy/Motherhood: Preeclampsia

Toxemia is the general term for toxic substances in the bloodstream. This is typically caused by a bacterial infection in which bacteria release toxins into the blood.

Oils: cypress

: Dilute as recommended, and apply 1–2 drops on neck, over heart, or on bottoms of feet. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on neck, back, chest, and legs.

: Diffuse into the air.

Toxins

see Detoxification

Travel Sickness

see Nausea:Motion Sickness

Tuberculosis (T.B.)

see also Antibacterial, Respiratory System

Tuberculosis is a bacterial disease spread through the air (via coughing, spitting, sneezing, etc.). Tuberculosis most commonly infects the lungs, but it can infect other bodily systems as well. Symptoms of tuberculosis include a chronic cough (often with blood), fever, chills, weakness and fatigue, weight loss, and night sweats. Tuberculosis is contagious and sometimes deadly.

Oils: eucalyptus, cypress, Respiratory Blend, thyme, cedarwood, Protective Blend, lemon, melissa, vetiver, peppermint, sandalwood

Other Products: Respiratory Lozenge Drops

—Airborne Bacteria:

Oils: ⊘Protective Blend, ⊘lemongrassⓘ, ⊘geraniumⓘ, ⊘Cleansing Blend, ⊘Respiratory Blend

—Pulmonary:

Oils: ⊘⊖oregano, ⊘⊖cypress, ⊘⊖eucalyptus, ⊘⊖frankincense

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale. Add 2–3 drops to bowl of hot water, and inhale vapors.

⊖: Dilute as recommended, and apply 1–2 drops on chest, back, or reflex points on the feet. Add 1–2 drops to 1 tsp. fractionated coconut oil, and apply as rectal implant. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on chest, back, and feet.

ⓘ: **Additional Research:**

Vetiver: The ethanolic extract of vetiver root was found to inhibit both virulent and avirulent strains of *M. tuberculosis*, suggesting that vetiver could be useful in treating tubercular infections (Saikia et al., 2012).

Lemongrass: A formulation of lemongrass and geranium oil was found to reduce airborne bacteria by 89% in an office environment after diffusion for 15 hours (Doran et al., 2009).

Geranium: A formulation of lemongrass and geranium oil was found to reduce airborne bacteria by 89% in an office environment after diffusion for 15 hours (Doran et al., 2009).

Tumor

see also Cancer

A tumor is an abnormal growth of cells in a lump or mass. Some tumors are malignant (cancerous) and some are benign (noncancerous). Benign tumors in most parts of the body do not create health problems. *For information on cancerous (malignant) tumors, see Cancer.*

Oils: ⊖⊘frankincense, ○Cellular Complex, ⊖⊘clove, ⊖⊘sandalwood

—Lipoma:

Lipoma is a benign tumor of the fatty tissues that most commonly forms just below the surface of the skin; but it can also form in any other area of the body where fatty tissue is present.

Oils: ⊖frankincense, ⊖clove, ○Cellular Complex, ⊖grapefruit, ⊖ginger

⊖: Dilute as recommended, and apply 1–2 drops on location.

○: Take 3–5 drops in an empty capsule, or with food and beverage. Take up to twice per day as needed.

⊘: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Typhoid

see also Antibacterial

Typhoid fever is a bacterial infection caused by the bacteria *Salmonella typhi*. Typhoid is spread through food and water infected with the feces of typhoid carriers. Possible symptoms of typhoid include abdominal pain, severe diarrhea, bloody stools, chills, severe fatigue, weakness, chills, delirium, hallucinations, confusion, agitation, and fluctuating mood.

Oils: ⊖⊘cinnamon, ⊖⊘peppermint, ⊖⊘Cleansing Blend, ⊖⊘lemon, ⊖⊘Respiratory Blend

⊖: Dilute as recommended, and apply over intestines or on reflex points on the feet.

⊘: Diffuse into the air.

Ulcers

see also Digestive System

An ulcer is an open sore either on the skin or on an internal mucous membrane (such as that lining the stomach).

Oils: ○⊖frankincense, ○⊖myrrh, ○⊖marjoramⓘ, ○⊖lemonⓘ, ○⊖dillⓘ, ○⊖oregano, ○⊖rose, ○⊖thyme, ○⊖clove, ○⊖bergamot

—Duodenal:

A duodenal ulcer is an ulcer in the upper part of the small intestine.

Oils: ○⊖frankincense, ○⊖myrrh, ○⊖lemon, ○⊖oregano, ○⊖rose, ○⊖thyme, ○⊖clove, ○⊖bergamot

—Gastric: *see also* Digestive System:Gastritis.

A gastric ulcer is an ulcer in the stomach.

Oils: ○⊖geranium, ○⊖peppermint, ○⊖marjoramⓘ, ○⊖lemonⓘ, ○⊖dillⓘ, ○⊖frankincense, ○⊖orange, ○⊖bergamot

—Leg:

An ulcer on the leg may be due to a lack of circulation in the lower extremities or possibly due to a bacterial, fungal, or viral infection. *See also Circulatory System:Circulation, Antibacterial, Antifungal, Antiviral.*

Oils: Cleansing Blend, lavender, Roman chamomile, geranium

—Mouth: *see Canker Sores*

—Peptic:

A peptic ulcer is an ulcer that forms in an area of the digestive system where acid is present, such as in the stomach (gastric), esophagus, or upper part of the small intestine (duodenal). *See also Duodenal, Gastric* in this section.

Recipe 1: Flavor a quart of water with 1 drop cinnamon, and sip all day.

—Varicose Ulcer:

A varicose ulcer is an ulcer on the lower leg where varicose (swollen) veins are located.

Oils: melaleuca, geranium, lavender, eucalyptus, thyme

: Add 1 drop oil to rice or almond milk, and drink. Place oil in an empty capsule and swallow. Add 1 drop or less as flavoring to food after cooking.

: Dilute as recommended, and apply 1–2 drops over area. Apply as warm compress.

: **Additional Research:**

Marjoram: Oral administration of marjoram extract was shown to significantly decrease the incidence of ulcers, basal gastric secretion, and acid output in rats (Al-Howiriny et al., 2009).

Lemon: Lemon essential oil and its majority compound (limonene) exhibited a gastroprotective effect against induced gastric ulcers in rats (Rozza et al., 2011).

Dill: Oral administration of dill seed extract was found to have effective antisecretory and anti-ulcer activity against HCl- and ethanol-induced stomach lesions in mice (Hosseinzadeh et al., 2002).

Unwind

see Calming

Uplifting

Oils: lemon, orange, Joyful Blend, Invigorating Blend, bergamot, grapefruit, Blend for Women, myrrh, wintergreen, lavender

: Diffuse into the air. Inhale directly from bottle. Apply oil to hands, tissue, or cotton wick; inhale. Wear as perfume or cologne.

: **Additional Research:**

Lemon: Lemon odor was found to enhance the positive mood of volunteers exposed to a stressor (Kiecolt-Glaser et al., 2008).

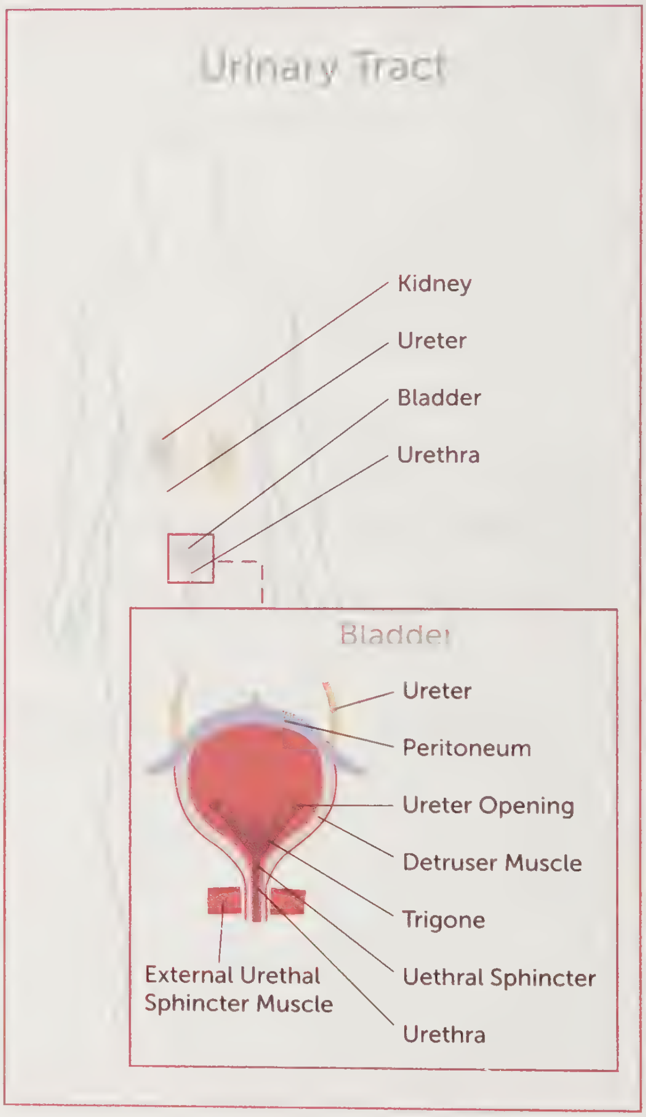
Lemon: Lemon oil and its component, citral, were found to decrease depressed behavior in a similar manner to antidepressant drugs in rats involved in several stress tests (Komori et al., 1995).

Ureter

see Urinary Tract

Urinary Tract

The urinary tract is the collection of organs and tubes responsible for producing and excreting urine. The urinary tract is comprised of the kidneys, bladder, ureters, and urethra.



Oils: sandalwood, thyme, melaleuca, bergamot, lavender, rosemary

—General Stimulant:

Oils: eucalyptus, bergamot

—Infection: *see also* *Bladder:Cystitis/Infection*

Oils: ✋Cleansing Blend, ✋🌀lemongrass, ✋cedarwood, ✋🌀geranium, ✋bergamot, ✋🌀juniper berry

Blend 1: Combine 1 drop Protective Blend with 1 drop oregano; apply as a hot compress over abdomen and pubic area.

Other Products: 💧Protective Softgels

—Stones In: *see also* *Kidneys:Kidney Stones*

Stones are solid masses that form as minerals and other chemicals crystallize and adhere together. They can form in the bladder or kidneys. While small stones generally cause no problems, larger stones may block the ureters or urethra, causing intense pain and possibly injury.

Oils: ✋fennel, ✋geranium

—Support:

Oils: ✋🌀geranium, ✋🌀cypress, ✋🌀melaleuca

✋: Dilute as recommended, and apply 1–2 drops over lower abdomen, lower back, or pubic area. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on abdomen, lower, back, or pubic area. Apply as a warm compress.

💧: Take supplement as directed.

🌀: Diffuse into the air.

Uterus

see also *Endometriosis, Female Specific Conditions*

The uterus is the female reproductive organ in which a fetus is formed and develops until birth.

Oils: ✋frankincense, ✋lemon, ✋myrrh, ✋cedarwood, ✋geranium

—Regeneration of Tissue:

Oils: ✋frankincense

—Uterotonic:

An uterotonic is a medication used to stimulate uterus contractions. Uterotonics should be avoided or used with extreme caution during pregnancy as they may be abortive. Uterotonics are used to start or speed up labor, to reduce hemorrhaging, and to cause contractions after a miscarriage.

Oils: ✋thyme

—Uterine Cancer: *See* *Cancer:Uterine*

✋: Dilute as recommended, and apply 1–2 drops on lower abdomen or on reflex points on the feet and ankles. Add 2–5 drops essential oil to 1 tsp. fractionated coconut oil, and insert into vagina for overnight retention (a tampon may be used if necessary to help retain the oil). Apply as a warm compress.

Vaginal

—Candida: *see also* *Antifungal:Candida*

Candida refers to a genus of yeast that are normally found in the digestive tract and on the skin of humans. These yeast are typically symbiotically beneficial to humans. However, several species of *Candida*, such as *Candida albicans*, can cause infections, such as vaginal candidiasis, that cause localized itching, soreness, and redness.

Oils: ✋melaleuca◌, ✋💧oregano◌, ✋clove◌, ✋Protective Blend, ✋bergamot, ✋peppermint◌, ✋thyme◌, ✋lavender◌, ✋eucalyptus, ✋rosemary, ✋💧Digestive Blend

—Infection: *see also* *Candida (above), Antibacterial, Antifungal, Antiviral*

Vaginal infections occur when there is a disruption in the normal balance of vaginal organisms, such as the sudden presence of yeast, bacteria, or viruses. Common signs of vaginal infection include redness, swelling, itching, pain, odor, change in discharge color or amount, a burning sensation when urinating, and pain or bleeding during intercourse. The most common vaginal infections are yeast infection, trichomoniasis, and bacterial vaginosis.

Oils: ✋rosemary, ✋cinnamon (dilute heavily), ✋melaleuca, ✋oregano, ✋thyme, ✋myrrh, ✋clary sage, ✋cypress, ✋juniper berry, ✋eucalyptus, ✋lavender

—Vaginitis:

Vaginitis is vaginal inflammation, typically due to infection, characterized by redness, swelling, itching, irritation, discharge, and pain of the vaginal area.

Oils: ✋rosemary, ✋cinnamon (dilute heavily), ✋eucalyptus, ✋melaleuca, ✋lavender

Recipe 1: Valerie Worwood suggests combining 1 drop lavender, 1 drop melaleuca, 1 tsp. vinegar, 1/2 tsp. lemon juice, and 2–1/2 cups of warm water for a douche that can be used three days a week.

Dilute oils as recommended, and apply 1–2 drops on location. Add 2–3 drops to 1 tsp. fractionated coconut oil, insert using vaginal syringe, and retain using tampon overnight. Add 2–3 drops to 1 tsp. fractionated coconut oil, soak tampon in mixture, insert, and leave in all day or overnight. Add 1–2 drops to warm water, and use in a douche. Add 1–2 drops to warm bathwater, and bathe.

Place 1–2 drops under the tongue, or place 2–3 drops in an empty capsule, and swallow.

Additional Research:

Melaleuca: Tea tree oil was found to inhibit 301 different types of yeasts isolated from the mouths of cancer patients suffering from advanced cancer, including 41 strains that are known to be resistant to antifungal drugs (Bagg et al., 2006).

Melaleuca: Eleven types of Candida were found to be highly inhibited by tea tree oil (Banes-Marshall et al., 2001).

Melaleuca: Tea tree oil was found to disrupt the cellular membrane and to inhibit respiration in Candida albicans (Cox et al., 2000).

Melaleuca: Melaleuca oil at concentrations of .16% was found to inhibit the transformation of C. albicans from single-cell yeast to the pathogenic mycelial (multi-cellular strands) form (D'Auria et al., 2001).

Melaleuca: Tea Tree oil was found to alter the membrane properties and functions of Candida albicans cells, leading to cell inhibition or death (Hammer et al., 2004).

Melaleuca: Terpinen-4-ol, a constituent of tea tree oil, and tea tree oil were found to be effective against several forms of vaginal Candida infections in rats, including azole-resistant forms (Mondello et al., 2006).

Melaleuca: Melaleuca: Melaleuca oil inhibited several Candida species in vitro (Vazquez et al., 2000).

Oregano: Mice infected with Candida albicans who were fed origanum oil or carvacrol diluted in olive oil had an 80% survival rate after 30 days, while infected mice fed olive oil alone all died after 10 days (Manohar et al., 2001).

Clove: Clove oil was found to have very strong radical scavenging activity (antioxidant). It was also found to display an antifungal effect against tested Candida strains (Chaieb et al., 2007).

Peppermint: Peppermint oil was found to have a higher fungistatic and fungicidal activity against various fungi (including Candida) than the commercial fungicide bifonazole (Mimica-Dukić et al., 2003).

Thyme: Thyme oil was found to inhibit Candida species by causing lesions in the cell membrane and inhibiting germ tube (an outgrowth that develops when the fungi is preparing to replicate) formation (Pina-Vaz et al., 2004).

Lavender: Lavender oil demonstrated both fungistatic (stopped growth) and fungicidal (killed) activity against Candida albicans (D'Auria et al., 2005).

Varicose Ulcers

see Ulcers:Varicose Ulcer

Varicose Veins

Varicose veins are twisted, enlarged, blue and purple veins most often found on the legs and ankles. They have several possible causes, including weakened valves causing blood to pool around the vein. In some cases, varicose veins are merely a cosmetic problem because of their appearance, but in other cases they can be quite painful. *See also Hemorrhoids for varicose veins of the anus or rectum.*

Oils: cypress, lemongrass, lemon, peppermint, helichrysum, Invigorating Blend, geranium, lavender, rosemary, juniper berry, orange

Dilute as recommended, and apply oils gently from ankles up the legs. *Consistent application of oils for an extended period of time is the key.* Add 3–5 drops to 1 Tbs. fractionated coconut oil, and massage above the veins towards the heart. Wearing support hose and elevating the feet can also help keep blood from pooling in the legs.

Vascular System

see Cardiovascular System;
see also Arteries, Capillaries, Veins

Vasodilator

see Arteries:Arterial Vasodilator

Veins

A vein is a blood vessel that carries blood from the capillaries back to the heart. Veins may also have one-way valves on the inside that help keep blood from flowing backwards and pooling in the lower extremities due to gravity.

Oils: lemongrass, cypress, lemon, helichrysum

—Blood Clot in Vein:

Blend 1: Apply 1 drop cypress and 1 drop helichrysum on location of clot to help dissolve.

Dilute as recommended, and apply 1–2 drops on location. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on location.

Vertigo

see also Ears, Nausea:Motion Sickness

Vertigo refers to the sensation that the environment and objects around an individual are moving or spinning, usually causing a loss of balance or feelings of nausea. Vertigo may be caused by ear infections, ear disorders, or motion sickness.

Oils: ginger, helichrysum, geranium, basil, lavender

Recipe 1: Apply 1–2 drops each of helichrysum, geranium, and lavender to the tops of each ear (massaging slightly); then apply the oils behind each ear, pulling your hands down behind the jaw bone to just below the jaw. Finish by applying 1–2 drops of basil behind and down each ear. This can be performed multiple times a day until symptoms decrease.

✋: Dilute as recommended, and apply 1–2 drops around ears and on reflex points on the feet.

🌀: Inhale oil directly from bottle. Apply oil to hands, tissue, or cotton wick, and inhale.

Viral Disease/Viruses

see *Antiviral*

Vitiligo

see *Skin:Vitiligo*

Voice (Hoarse)

see also *Laryngitis*

A hoarse voice is typically caused by laryngitis (inflammation of the larynx due to infection), but it can also be caused by other problems such as an ulcer, sore, polyp, or tumor on or near the vocal cords.

Oils: 💧bergamot

Recipe 1: Add 1 drop melaleuca, 1 drop rosemary, 1 drop clove, and 1 drop lemon to 1 tsp. honey. Swish around in the mouth for a couple of minutes to liquefy with saliva; then swallow.

💧: Add 1 drop to 1 tsp. honey, and swallow.

Vomiting

see *Nausea:Vomiting*

Warming Oils

Oils: ✋cinnamon, ✋oregano, ✋thyme, ✋marjoram, ✋rosemary, ✋juniper berry

✋: Add 5–10 drops to 1 tsp. fractionated coconut oil, and massage briskly into skin.

Warts

A wart is a small, firm, hard growth on the skin, usually located on the hands and feet, that is typically caused by a virus.

Oils: ✋frankincense, ✋Protective Blend, ✋melaleuca, ✋oregano (layer with Protective Blend), ✋clove, ✋cypress, ✋arborvitae, ✋cinnamon, ✋lemon, ✋lavender

Recipe 1: Combine 5 drops cypress, 10 drops lemon, and 2 Tbs. apple cider vinegar. Apply on location twice daily; bandage. Keep a bandage on until wart is gone.

—Genital:

A genital wart is a small, painful wart or cluster of warts located in the genital area or in the mouth or throat. This type of wart is typically spread by contact with the skin through sexual activity.

Oils: ✋frankincense, ✋Protective Blend, ✋melaleuca, ✋oregano, ✋thyme

—Plantar:

Plantar warts are painful warts that grow on the bottoms of the feet. They are usually flattened and embedded into the skin due to the pressure caused by walking on them.

Oils: ✋oregano

✋: Dilute as recommended, or dilute 1–2 drops of oil in a few drops fractionated coconut oil; then apply 1–2 drops on location daily.

Water Purification

Oils: 💧✋lemon, 💧✋Cleansing Blend, 💧peppermint, 💧orange

💧: Add 1 drop of oil to 12–16 oz. of drinking water to help purify.

✋: Add 1–2 drops to dishwater for sparkling dishes and a great smelling kitchen. Add 1–2 drops to warm bathwater, and bathe. Add 1–2 drops to a bowl of water, and use the water to clean the outsides of fruits and vegetables.

Water Retention

see *Edema, Diuretic*

Weakness

see *Energy*

Weight

Proper exercise and nutrition are the most critical factors for maintaining a healthy weight. Other factors that may influence weight include an individual's metabolism, level of stress, hormonal imbalances, low or high thyroid function, or the level of insulin being produced by the body.

—Obesity:

Obesity is the condition of being overweight to the extent that it effects health and lifestyle. By definition, obesity is considered as a body mass index (BMI) of 30 kg/m^2 or greater.

Oils: grapefruit, Metabolic Blend, oregano, thyme, orange, rosemary, juniper berry, fennel

Other Products: Trim Shakes, Appetite Suppressant Drink Mix, Appetite Suppressant Bars, Energy & Stamina Complex for enhanced cellular energy. Fruit & Veggie Drink Mix for a whole food source of essential nutrients and antioxidants. Cellular Vitality Complex contains polyphenols resveratrol and epigallocatechin-3-gallate (EGCG), which have been studied for their abilities to help prevent obesity.

—Slimming/Toning:

Oils: grapefruit, Metabolic Blend, orange, lemongrass, rosemary, thyme, lavender

Other Products: Trim Shakes.

—Weight Loss:

Oils: Metabolic Blend, Joyful Blend, patchouli

Other Products: Trim Shakes, Appetite Suppressant Drink Mix, Appetite Suppressant Bars. Fruit & Veggie Drink Mix for a whole food source of essential nutrients.

Recipe 1: Add 5 drops lemon and 5 drops grapefruit to 1 gallon of water, and drink throughout the day.

: Diffuse oil into the air. Inhale oil directly from bottle; or inhale oil that is applied to hands, tissue, or cotton wick.

: Add 8 drops of Metabolic Blend to 16 oz. of water, and drink throughout the day between meals. Add 1 drop of oil to 12–16 oz. of water, and drink. Drink Trim or V Shake 1–2 times per day as a meal alternative. Take capsules as directed on package.

: **Additional Research:**

Grapefruit: The scent of grapefruit oil and its component, limonene, was found to affect the autonomic nerves and to reduce appetite and body weight in rats exposed to the oil for 15 minutes three times per week (Shen et al., 2005).

Grapefruit: Grapefruit essential oil was found to directly inhibit adipogenesis of adipocytes, indicating that grapefruit has an antiobesity effect (Haze et al., 2010).

Carvacrol (found in oregano and thyme essential oils): After 10 weeks of feeding, the body weight gain, visceral fat-pad weights, and final body weights of mice fed a high-fat diet and carvacrol were significantly lower than that of mice fed a high-fat diet without carvacrol (specifically a 24% decrease in final body weight, a 43% decrease in body weight gain, and a 36% decrease in total visceral fat-pad weight was observed when carvacrol was ingested)(Cho et al., 2012). Interestingly, the food intake during the 10-week feeding period did not differ among the groups and mRNA expressions were different among the two groups (Cho et al., 2012).

D-Limonene (found in lime, lemon, bergamot, dill, grapefruit, lavender, lemongrass, Roman chamomile, tangerine, and wild orange essential oils): Oral intake of D-limonene effectively protects against the development of hyperglycemia and dyslipidemia in mice fed a high-fat diet (Jing et al., 2013). This study also found evidence suggesting that D-limonene may prevent lipid accumulation in the livers of mice fed a high-fat diet and improve metabolic dysfunctions by ameliorating glucose tolerance in obese mice (Jing et al., 2013).

Lime: Injection of lime essential oil prevented weight gain by suppressing the appetite of mice even when administered ketotifen, an antihistamine with the undesirable side effects of decreased metabolism and increased appetite (Asnaashari et al., 2010).

Cinnamon: When compared to six other plant extracts, cinnamon and apple polyphenolic plant extracts were found to be anti-obesogenic due to their body fat-lowering effect in diet-induced obesity model rats (Boque et al., 2013).

Whiplash

Whiplash is the over-stretching or tearing of the muscles, ligaments, and/or tendons in the neck and head. This is typically caused by a sudden collision or force pushing the body in one direction, while the head's tendency to remain in the same place causes the head to quickly rock in the opposite direction the body is going.

Oils: Soothing Blend, lemongrass (ligaments), marjoram (muscles), birch, basil, juniper berry, helichrysum, vetiver, clove, peppermint, Roman chamomile

: Dilute as recommended, and apply 1–2 drops on back of neck. Add 5–10 drops to 1 Tbs. fractionated coconut oil, and massage on back of neck, on shoulders, and on upper back.

Whooping Cough

see *Childhood Diseases: Whooping Cough*

Withdrawal

see *Addictions:Withdrawal*

Women

see *Female Specific Conditions*

Workaholic

see *Addictions:Work*

Worms

see *Antifungal:Ringworm, Parasites:Worms*

Wounds

see also *Antibacterial, Blood:Bleeding*

A wound is a general term for an injury that involves tissue (typically the skin or underlying skeletal muscles) being torn, cut, punctured, scraped, or crushed.

Oils: clove, melaleuca, helichrysum, lavender, lemongrass, Cleansing Blend, basil, cypress, eucalyptus, frankincense, Roman chamomile, peppermint (after wound has closed), myrrh, rose, sandalwood, thyme, juniper berry, bergamot

Recipe 1: Place 1–3 drops of helichrysum on fresh wound to help stop bleeding. Add 1 drop clove to help reduce pain. Once bleeding has stopped, apply a drop of lavender (to help start healing), a drop of melaleuca (to help fight infection), and a drop of lemongrass (for possible ligament damage). Bandage the wound. When changing the bandage, apply 1 drop basil or sandalwood to help promote further healing. Add 1 drop Cleansing Blend or Protective Blend to help prevent infection.

Other Products: Essential Ointment to help cleanse and support the skin's natural healing process.

Blend 1: Add 1 drop lavender to 1 drop Cleansing Blend and apply to wound.

—Children/Infants:

Oils: Roman chamomile

Recipe 2: Add 1–3 drops each of helichrysum and lavender to 1 tsp. fractionated coconut oil, and apply a small amount to wound.

—Bleeding:

Oils: helichrysum, rose, lavender, lemon

Blend 2: Combine 1 drop Roman chamomile, 1 drop geranium, and 1 drop lemon, and apply with a warm compress 2–3 times a day for 3–4 days, then reduce to once a day until healed.

—Disinfect:

Oils: melaleuca, thyme, lavender

—Healing:

Oils: basil, helichrysum, melaleuca, lavender, myrrh, sandalwood

—Inflammation: *see Inflammation*

—Scarring: *see Skin:Scarring, Tissue:Scarring*

—Surgical:

Oils: peppermint, melaleuca

Blend 2: Add 3 drops helichrysum, 3 drops frankincense, and 4 drops lavender to 2 tsp. fractionated coconut oil. Apply a few drops when changing bandages.

—Weeping:

Oils: myrrh, patchouli

⊖: Dilute as recommended, and apply 1–2 drops on location.

O: **Additional Research:**

Basil: Basil (Ocimum gatissimum) oil was found to facilitate the healing process of wounds in rabbits to a greater extent than two antibacterial preparations, Cicatrin and Cetavlex (Orafidiya et al., 2003)

Clove: Beta-caryophyllene (found in clove and copal oils) demonstrated anaesthetic (pain reducing) activity in rats and rabbits (Ghelardini et al., 2001).

Cinnamon: A topically applied cinnamon oil based microemulsion showed increased wound healing ability in rats by preventing sepsis of the excised wound (Ghosh et al., 2013).

Wrinkles

see *Skin:Wrinkles*

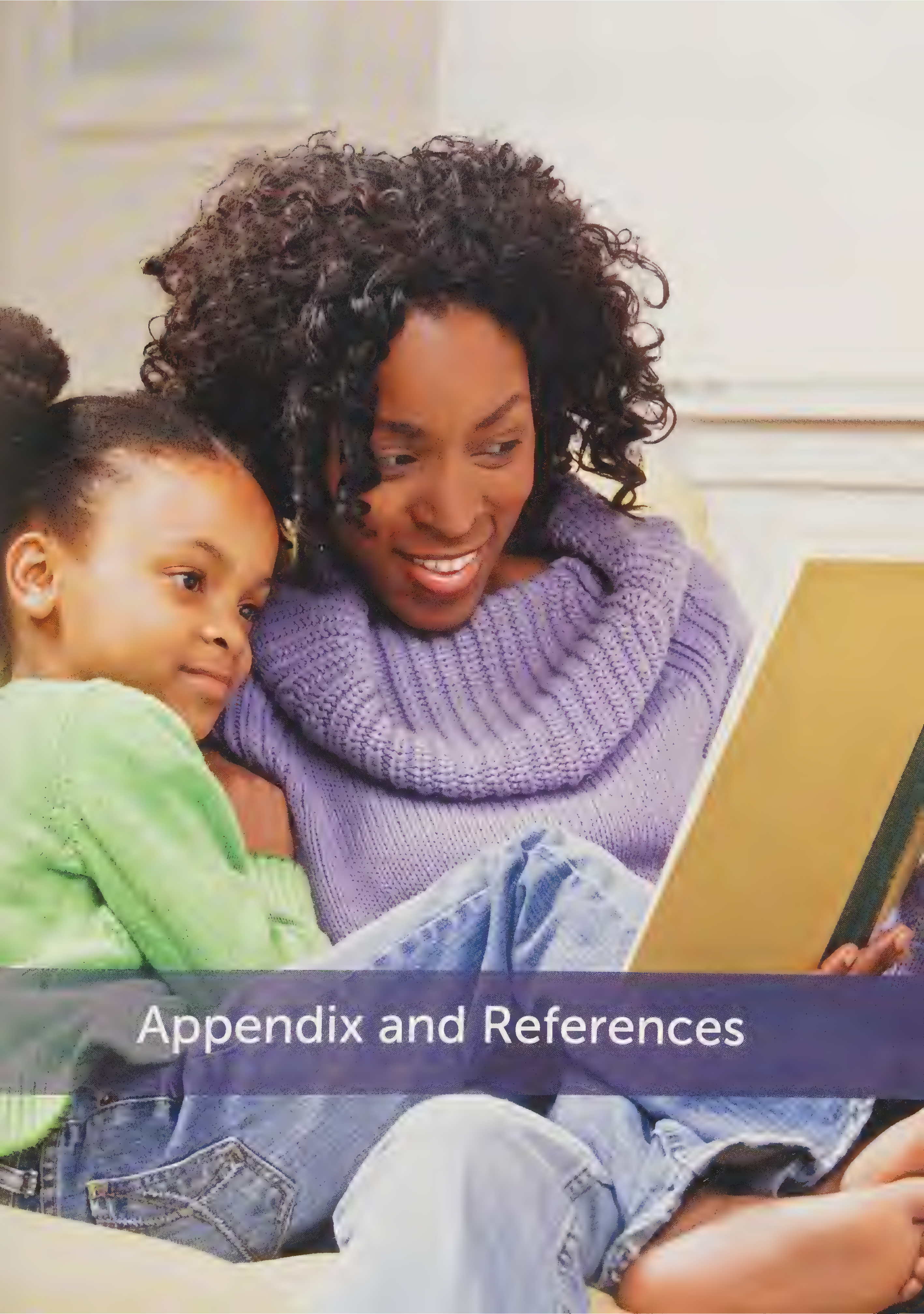
Yeast

see *Antifungal:Candida*

Yoga

Oils: sandalwood, cedarwood

⊘: Diffuse into the air.



Appendix and References

Appendix A: Body Systems Chart

The following chart lists all of the oils & products discussed within this book and indicates which body systems they primarily affect. While this chart does not include every system that could possibly be affected by each formulation, it attempts to list the primary systems that are most often affected. It is provided to give the beginning aromatherapy student a starting point for personal use and analysis.

Product Name	Cardiovascular System	Digestive System	Emotional Balance	Hormonal System	Immune System	Muscles and Bones	Nervous System	Respiratory System	Skin and Hair
Arborvitae			●					●	●
Basil	●					●			
Bergamot		●	●						●
Birch						●			
Blend for Women			●	●			●		
Bone Nutrient Complex						●	●		●
Calming Bath Bar			●				●		●
Calming Blend			●				●		
Cardamom		●						●	
Cassia					●				
Cedarwood							●	●	
Cellular Complex	●				●	●		●	
Cellular Vitality Complex	●				●	●	●	●	●
Chewable Multivitamin	●	●		●	●	●	●	●	●
Cinnamon Bark					●				
Clary Sage				●					
Cleansing Blend		●	●		●				●
Clove	●	●			●			●	
Coriander		●		●					
Cypress	●					●			
Detoxification Blend		●		●	●			●	●
Dill	●	●							
Digestive Blend		●							
Digestive Enzyme Complex		●							
Energy & Stamina Complex	●			●		●	●		
Essential Oil Omega Complex	●	●			●		●		●
Eucalyptus								●	●
Fennel		●		●					
Focus Blend			●	●	●		●		
Food Nutrient Complex	●	●	●	●	●	●	●	●	●
Frankincense			●		●		●		●
Geranium			●						●
GI Cleansing Formula		●			●				
Ginger		●					●		
Grapefruit	●								

Product Name	Cardiovascular System	Digestive System	Emotional Balance	Hormonal System	Immune System	Muscles and Bones	Nervous System	Respiratory System	Skin and Hair
Grounding Blend			●			●	●		●
Hair Care Products									●
Hand & Body Lotion									●
Headache Relief Blend						●	●		
Helichrysum	●					●			
Invigorating Bath Bar			●		●		●		●
Invigorating Blend			●		●		●		
Joyful Blend			●	●					
Juniper Berry		●	●				●		●
Lavender	●		●				●		●
Lemon		●			●			●	
Lemongrass					●	●			
Lime		●			●			●	
Marjoram	●					●			
Massage Blend			●	●	●	●	●		
Melaleuca					●	●		●	●
Melissa			●						●
Metabolic Blend		●	●						
Myrrh				●	●		●		●
Omega-3 Fish Oil	●	●			●		●		●
Orange		●	●		●				●
Oregano					●	●		●	
Patchouli									●
Peppermint		●				●	●	●	●
Phytoestrogen Complex			●	●		●			●
Protective Blend					●				●
Repellent Blend									●
Respiratory Blend								●	
Roman Chamomile			●				●		●
Rose			●						●
Rosemary					●		●	●	
Sandalwood			●			●	●		●
Soothing Blend						●	●		
Spearmint		●	●						
Thyme					●	●			
Topical Blend					●				●
Topical Face Wash					●				●
Trim and V Shake		●		●		●			
Vetiver			●	●			●		●
White Fir								●	
Wintergreen						●			
Women's Monthly Blend			●	●					●
Ylang Ylang	●		●	●					

Appendix B: Single Essential Oils Property Chart

The following chart presents some of the properties of each of the single oils. An attempt has been made to indicate the effectiveness of the oils for each property, where supporting information existed. However, this information should not be considered conclusive. It is provided to give the beginning aromatherapy student a starting point for personal use and analysis. Also, keep in mind the applicable safety data when applying an oil for its property. For example, cinnamon bark is one of the best known antiseptics, but it is also extremely irritating to the skin. It may work well to sanitize the bathroom with, but it should be used with extreme caution on the skin.

Properties of Essential Oils

Antibacterial: an agent that prevents the growth of (or destroys) bacteria.

Anticatarrhal: an agent that helps remove excess catarrh from the body. Expectorants help promote the removal of mucus from the respiratory system.

Antidepressant: an agent that helps alleviate depression.

Antifungal: an agent that prevents and combats fungal infection.

Anti-infectious: an agent that prevents and combats the spread of germs.

Anti-inflammatory: an agent that alleviates inflammation.

Antimicrobial: an agent that resists or destroys pathogenic microorganisms.

Antiparasitic: an agent that prevents and destroys parasites.

Antirheumatic: an agent that helps prevent and relieve rheumatism.

Antiseptic: an agent that destroys and prevents the development of microbes.

Antispasmodic: an agent that prevents and eases spasms or convulsions.

Antiviral: a substance that inhibits the growth of a virus.

Analgesic: a substance that relieves pain.

Immune-stimulant: an agent that stimulates the natural defense mechanism of the body.

Single Oil Name	Antibacterial	Anticatarrhal	Antidepressant	Antifungal	Anti-infectious	Anti-inflammatory	Antimicrobial	Antiparasitic	Antirheumatic	Antiseptic	Antispasmodic	Antiviral	Analgesic	Immune-stimulant
Arborvitae	++			+++	+		++	++		++				
Basil	++	+	+		+	+++				+	+	+		
Bergamot					+	+++		+		+	+		+	
Birch						+			+	+++	+			
Cardamom	++				+	++	+			+	+			
Cassia	+		+	+	+	+	++	+		++++	+	+		
Cedarwood				+	+					++				
Cinnamon	+		+	+	+	+	++	+		++++	+	+		
Clary Sage	+		+		+					+	+			
Clove	+++	+		++	+			++	+	+		+++		
Coriander	++		++		++			+			+		+	
Cypress	+				+			+	+	+	+			
Dill	+			+		+					++			
Eucalyptus	++	++			+	+						+++	++	+
Fennel	+	++				+	+	+		+	+			
Frankincense		++	++			+++	+				+			+++
Geranium	+++		++	++	+	+				+				
Ginger		++								++			++	
Grapefruit	++									++				
Helichrysum	++	+++		+		++	++			+	+++			
Juniper Berry										++	+		+	
Lavender			++		+	++	+	+	+	+	++		++	
Lemon	++				+		++		+	+++	+			++
Lemongrass	+		+	+		++	+			+			++	
Lime	++									++		+		
Marjoram	+	+		+	+					++	++	+	++	
Melissa	+		++				+				++	++		
Melaleuca	+++			++++	+	+		+		+		+++		++
Myrrh		+		+	+	+++	++	+		+		+++		
Orange	++		++	+		+				++				
Oregano	+++	+		+++	+++			+++	++	+	+	++	++	++
Patchouli	+		+	+	+	+	+			+		+		
Peppermint	+	+		+	+	++	+			+	+	+	++	
Roman Chamomile	+		+		+	+++				+	+		++	
Rose					+									
Rosemary	+++	+		+++	+	+++							+++	
Sandalwood	+	+++	++	+						++	+			
Spearmint	++			+		+				+	+			+
Thyme	+	+		+++			++	+	++		+	+		++
Vetiver					+					+	+			+
White Fir		+								++			+	
Wintergreen						+++			+	+	+		+	
Ylang Ylang			+		+					+	+			

Appendix C: Taxonomical Information

The following chart is the taxonomical breakdown of the plant families for each of the essential oils found in this book. Following this division chart, there is further information for each family—including the plants within that family that essential oils are derived from, the body systems affected by these essential oils, the properties of these oils, and general uses for these oils.

Division: Embryophyte Siphonogama (plants with seeds)

- **Subdivision:** Gymnosperm (plants with concentric rings, exposed seeds, and resinous wood)
  - **Class:** Coniferae (cone-bearing plants) and Taxaceae (yew-like plants)
    - **Family:** Pinaceae (Trees or shrubs with cones and numerous "scales")
      - **Genus:** Abies (firs, balsam trees), Cedrus (cedars), Pinus (pines), Picea (spruces), Pseudotsuga (false hemlock), Tsuga (hemlocks)
    - **Family:** Cupressaceae
      - **Genus:** Callitris (blue cypress), Cupressus (cypresses), Juniperus (junipers), Thuja (Arbor vitae or cedars)
- **Subdivision:** Angiosperm (highly evolved plants with seeds enclosed by fruits)
  - **Class:** Monocotyledons (plants with one-leaf embryos)
    - **Family:** Gramineae, Zingiberaceae
  - **Class:** Dicotyledons (plants with multiple-leaf embryos)
    - **Family:** Annonaceae, Betulaceae, Burseraceae, Cistaceae, Compositae, Ericaceae, Geraniaceae, Guttiferae, Labiatae, Lauraceae, Myrtaceae, Oleaceae, Piperaceae, Rosaceae, Rutaceae, Santalaceae, Styracaceae, Umbelliferae

Annonaceae

Shrubs, trees, climbers; fragrant flowers; 128 genera, 2000 species; mostly tropical, found in Old World and rain forest.

Body Systems: Cardiovascular System, Nervous System (calming), Hormonal System (aphrodesiac)

Properties: extreme fire and water; nervous sedative, balancing

General Uses: depression, frigidity, impotence, palpitations, skin care

Cananga odorata: two forms exist: var. odorata (var. genuina., *Unona odorantissimum*): ylang-ylang; var. macrophylla: cananga

Betulaceae

Shrubs, trees; fruit is one-seeded nut, often winged; includes birches, alders, hornbeams, and hazels; 6 genera, 150 species; from northern hemisphere to tropical mountains.

Body Systems: Digestive and Respiratory Systems, Muscles and Bones

Properties: analgesic, draining (lymph), purifying

General Uses: auto intoxication, muscle pain

Betula lenta: sweet birch

Burseraceae

Means "dry fire"; resinous tropical timber trees; drupe or capsule fruit; 21 genera, 540 species.

Body Systems: Respiratory System (secretions), Emotional Balance (psychic centers)

Skin Properties: cooling, drying, fortifying

General Uses: anti-inflammatory, expectorant, scar tissue (reducing), ulcers, wounds (healing)

Boswellia frereana: frankincense

Commiphora myrrha: myrrh

Compositae (Asteraceae)

Largest family of flowering plants; inflorescence, small flowers; 1317 genera, 21,000 species; found everywhere, especially around Mediterranean.

Body Systems: Digestive System, Skin

Properties: "perfect balance of etheric and astral forces, promoting realization, reorganization, structure" [Lavabre, Aromatherapy Workbook]; adaptive, calming, regeneration (note: because of the large variety of plants within this family, the therapeutic activity is very diversified; some plants are neurotoxic)

General Uses: infections, inflammation, regeneration

Chamaemelum nobile: Roman chamomile

Helichrysum angustifolium (var. Italicum): helichrysum

Cupressaceae

Conifer cypress family, needle-like leaves and cones; 17 genera, 113 species, most in northern temperate zones.

Body Systems: Hormonal, Respiratory, and Nervous Systems

Properties: appeasing, reviving, tonic, warming

General Uses: antirheumatic, astringent, cellulite (reduces), insomnia, nervous tension (reduces), respiration (when taken through inhalation), stress-related conditions

Cupressus sempervirens: cypress

Juniperus virginiana: red cedarwood

Juniperus communis: juniper

Ericaceae

Shrubs and small trees with leathery evergreen leaves, fruit berry, drupe or capsule; 103 genera, 3350 species; cosmopolitan centered in northern hemisphere.

Body Systems: Cardiovascular and Digestive Systems

Properties: detoxifying

General Uses: hypertension, kidney and liver stimulant

Gaultheria procumbens: wintergreen

Geraniaceae

Herbs or low shrubs, 14 genera, 730 species; temperate and tropical zones.

Body Systems: Hormonal System, Digestive System (kidneys (excretion), liver and pancreas (metabolism)), Nervous System, Emotional Balance

Properties: balancing (nervous system)

General Uses: burns, depression, diabetes, hemorrhaging, nervous tension, skin, sore throat, ulcers, wounds

Pelargonium graveolens: geranium

Gramineae (or Poaceae)

Nutritious grass family; used for ground covering and food (wheat, rice, corn, barley); large root systems; 737 genera, 7950 species; distributed throughout the world.

Body Systems: Cardiovascular System, Digestive System (stimulant), Respiratory System, Skin

Properties: air purifier, calming, refreshing, sedative

General Uses: air deodorizer, calm digestion, cleanse and balance skin (acne)

Cymbopogon flexuosus: lemongrass

Vetiveria zizanoides: vetiver

Labiate (Lamiaceae)

Herbs or low shrubs with quadrangular stems; largest of all essential oil producing plant families; oils are mostly nontoxic and non-hazardous; some antiseptic oils; some oils used for flavoring; most oils helpful for headaches, congestion, muscular problems (analgesic, anti-inflammatory), and stimulate one or more body systems; 224 genera, about 5600 species; main distribution in tropical and warmer temperate regions.

Body Systems: Digestive and Respiratory Systems

Properties: appeases overactive astral body [Lavabre, Aromatherapy Workbook], curative, stimulates, warms

General Uses: anemia, diabetes, digestion (poor), headaches, respiratory problems; "good for people with intense psychic activity to prevent exhaustion and loss of self" [Lavabre, Aromatherapy Workbook]

Lavandula angustifolia: lavender

Mentha piperita: peppermint

Origanum majorana: marjoram

Origanum vulgare: oregano

Rosmarinus officinalis: rosemary; several varieties—var. officinalis: common rosemary; numerous cultivars and forms; chemotypes: CT I: camphor; CT II: cineole; CT III: verbenone

Salvia sclarea: clary sage

Thymus vulgaris: thyme; chemotypes: linalool; thymol (or geraniol)

Lauraceae

Trees and shrubs with evergreen leaves and aromatic oils; some valued for timber, as ornamentals, or for oils or spices; 45 genera, 200–2500 species; found in tropics and subtropics in Amazona and Southeast Asia.

Body Systems: Cardiovascular System (cardiac stimulant, pulmonary stimulant), Nervous System (regulator), Hormonal System (aphrodisiac), Skin (cellular regenerator)

Properties: antifungal, antiviral, antibacterial, stimulant, tonic (some oils in this family are irritant)

General Uses: depression, headache, hypotension, scars, sexual debility

Cinnamomum cassia: cassia

Cinnamomum zeylanicum: cinnamon bark

Laurus nobilis: laurel (bay)

Ravensara aromatica: ravensara

Myrtaceae

Mainly tropical and subtropical plants with dotted leaves and oil glands; fruit is woody capsule or berry with one or many seeds; some have ornamental or showy flowers; many produce valuable timber; 121 genera, 3850 species; found in tropical and warm regions, especially Australia.

Body Systems: Respiratory and Immune Systems

Properties: "balances interaction of four elements (earth, air, fire, water)" [Lavabre, Aromatherapy Workbook], antiseptic, stimulant, tonic

General Uses: antiseptic, energy (balances), respiratory (infections), stimulant, tonic

Backhousia citriodora: lemon myrtle

Eucalyptus globulus: eucalyptus

Eucalyptus radiata: eucalyptus radiata

Eugenia caryophyllata: clove bud

Melaleuca alternifolia: melaleuca (tea tree)

Oleaceae

Trees or shrubs, including olive and ash; used for timber; 24 genera, 900 species; widely distributed, centered on Asia.

Body Systems: Emotional Balance, Hormonal System (aphrodisiac)

Properties: calming, soothing, uplifting

General Uses: anxiety, depression, frigidity, impotence, stress

Jasminum officinale: jasmine

Pinaceae (Abietaceae)

Conifers with male and female cones; 9 genera, 194 species; found in northern hemisphere, temperate climates.

Body Systems: Hormonal, Nervous, and Respiratory Systems; signifies air element

Properties: antiseptic, appeasing, reviving, tonic, warming

General Uses: arthritis, congestion (inhaled), oxygen deficiency, respiratory disorders, rheumatism, stress

Abies alba: white fir, silver fir

Picea mariana: spruce, black spruce

Pinus sylvestris: pine, Scotch pine

Rosaceae

Trees, shrubs, and herbs; some edible fruits; many cultivated for fruits (almond) or flowers (rose); 107 genera, 3100 species; found in temperate climates throughout the world.

Body Systems: Hormonal System (female reproductive); heart chakra

Properties: aphrodisiac, harmonizing, tonic, uplifting

General Uses: emotional shock, frigidity, grief, impotence

Rosa damascena: Bulgarian rose

Rutaceae

Aromatic trees and shrubs; sometimes thorny; dotted, compound leaves with aromatic glands; includes citrus fruits; 161 genera, about 1650 species; found in tropical and warm temperate regions, especially Australia and South Africa.

Body Systems: Digestive (kidneys, liver) and Nervous Systems, Skin

Properties: cooling, refreshing, secretion (fruits), sedative (flowers)

General Uses: inflammation, oversensitivity, water balance

Citrus aurantifolia: lime

Citrus bergamia: bergamot

Citrus limon: lemon

Citrus nobilis: tangerine

Citrus x paradisi: grapefruit

Citrus reticulate: mandarin

Citrus sinensis: orange

Santalaceae

Herbs, shrubs and trees which are semiparasitic on roots and stems of other plants; 36 genera, about 500 species; found in tropical and temperate regions.

Body Systems: Digestive System (excretory balance, genitourinary disinfectant), Nervous System (balances), and Respiratory System (balances)

Properties: balancing, calming, constriction, grounding

General Uses: genitourinary tract infections, impotence, lung congestion, stress-related disorders

Santalum album: East Indian sandalwood, Mysore sandalwood, sandalwood

Umbelliferae (Apiaceae)

Herbs and a few shrubs, flowers borne in umbels (flowers radiating from a central point, like an umbrella); some important as food (carrot, celery), while others are very poisonous; some have medicinal actions; 420 genera, 3100 species; found throughout the world, mainly in northern temperate regions.

Body Systems: Digestive System (balances), Hormonal System (stimulates uterus), Respiratory System, Skin (regenerates)

Properties: air element; accumulation (elimination, excretion), secretion

General Uses: gas, glandular problems, spasms

Carum carvi: caraway

Coriandrum sativum: coriander (from seeds), cilantro (from leaves)

Cuminum cyminum: cumin

Foeniculum vulgare: fennel

Pimpinella anisum: anise

Zingiberaceae

Ginger family comprising rhizomatous herbs; 53 genera, 1200 species; found mostly in rain forests throughout the tropics, but mainly in Indo-Malaysia.

Body Systems: Digestive and Hormonal Systems, Muscles and Bones

Properties: analgesic, fever reducing, scurvy (prevents), stimulant, tonic, warming

General Uses: digestive (stimulant), rheumatism, sexual tonic

Zingiber officinale: ginger

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My Notes on Single Essential Oils

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Coriander:

Cypress:

Dill:

Eucalyptus:

Fennel:

Frankincense:

Geranium:

Ginger:

Grapefruit:

Helichrysum:

Juniper Berry:

Lavender:

Lemon:

Marjoram:

Melissa:

Melaleuca:

Myrrh:

Orange:

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Roman Chamomile:

Rose:

Rosemary:

Sandalwood:

Spearmint:

Thyme:

Vetiver:

White Fir:

Wintergreen:

Ylang Ylang:

My Notes on Suggested Blends and Supplements

Anti-Aging Blend:

Blend for Women:

Calming Blend:

Cellular Complex:

Cleansing Blend:

Detoxification Blend:

Digestive Blend:

Focus Blend:

Grounding Blend:

Headache Relief Blend:

Invigorating Blend:

Joyful Blend:

Massage Blend:

Metabolic Blend:

Protective Blend:

Repellent Blend:

Respiratory Blend:

Soothing Blend:

Topical Blend:

Women's Monthly Blend:

Bone Nutrient Complex:

Cellular Vitality Complex:

Chewable Multivitamin:

Detoxification Complex:

Digestive Enzyme Complex:

Digestive Softgels:

Energy & Stamina Complex:

EO Cellular Complex:

EO Omega Complex:

Food Nutrient Complex:

Fruit & Veggie Drink:

GI Cleansing Fomula:

Omega-3 Fish Oil:

Phytoestrogen Complex:

Probiotic Defense Formula:

Protective Softgels:

Protective Throat Drops:

Respiratory Lozenges:

Seasonal Blend Softgels:

Trim Shakes:

Essential Oils & Blends Quick Usage Chart

Single Oil Name	Topical			Aromatic			Internal			Common Uses (see the Single Oils chapter for additional uses)
	Adult	Child/Sensitive	Pregnancy	Adult	Child	Pregnancy	Adult	Child (6+)	Pregnancy	
Arborvitae	🟢	🟣	🟣	🟢	🟢	🟣	✕	✕	✕	Antibacterial, Antifungal, Calming, Repellent
Basil	🟢	🟣	🔴	🟢	🟢	🟣	🟢	🟣	✕	Autism, Bronchitis, Earache, Cramps/Spasms, Bug Bites, Wounds
Bergamot**	🟢	🟣	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Brain Injury, Colic, Depression, Respiratory Infection, Stress
Birch	🟢	🟣	✕	🟢	🟢	✕	✕	✕	✕	Muscle Aches, Pain
Black Pepper	🟣	🔴	🟣	🟣	🟣	🟣	🟢	🟣	🟢	Addictions, Cooking, Circulation
Cardamom	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Coughs, Inflammation, Muscle Aches, Nausea, Respiratory Ailments
Cassia	🔴	🔴	✕	🟣	🟣	🟣	🔴	🔴	✕	Antibacterial, Antiviral, Disinfectant, Warming
Cedarwood	🟢	🟣	🟣	🟢	🟢	🟣	✕	✕	✕	Calming, Tension, Tuberculosis, Urinary Infection, Yoga
Cilantro	🟢	🟣	🟢	🟢	🟢	🟢	🟢	🟢	🟢	Anxiety, Cooking
Cinnamon	🔴	🔴	✕	🟣	🟣	🟣	🔴	🔴	✕	Antibacterial, Antifungal, Diabetes, Mold, Respiratory Infection, Warming
Clary Sage	🟢	🟢	🔴	🟢	🟢	🟣	🟢	🟣	🔴	Cholesterol, Cramps, Hot Flashes, PMS, Respiratory Infection
Clove	🟣	🔴	🟣	🟣	🟣	🟣	🟣	🟢	🟢	Antifungal, Antioxidant, Antiviral, Corns, Hypothyroidism, Toothache
Coriander	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Cartilage Injury, Muscle Aches, Muscle Development, Whiplash
Cypress	🟢	🟢	🟣	🟢	🟢	🟢	✕	✕	✕	Aneurysm, Carpal Tunnel, Concussion, Muscle Fatigue, Pain, Stroke
Dill	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Cholesterol, Cooking, Flavoring
Eucalyptus	🟢	🟣	🟢	🟢	🟢	🟢	✕	✕	✕	Inflammation, Neuralgia, Pain, Respiratory Issues, Shingles
Fennel	🟢	🟣	🔴	🟢	🟢	🟣	🟢	🟣	🔴	Blood Clots, Bruises, Digestive Support, Skin, Wrinkles
Frankincense	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Arthritis, Inflammation, Mental Fatigue, Respiratory Issues, Skin, Warts
Geranium	🟢	🟣	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Air Purification, Bleeding, Diabetes, Dry Skin, Vertigo, Wrinkles
Ginger*	🟢	🟣	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Digestive Issues, Morning Sickness, Nausea, Rheumatic Fever
Grapefruit	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Anorexia, Appetite Suppressant, Cellulite, Hangover
Helichrysum	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Antiviral, Bleeding, Cholesterol, Earache, Herpes, Sciatica, Wounds
Juniper Berry	🟢	🟢	🟣	🟢	🟢	🟣	🟢	🟣	🟣	Acne, Alcoholism, Dermatitis/Eczema, Kidney Stones, Tinnitus
Lavender	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Allergies, Boils, Burns, Calming, Itching, Pain, Skin, Sleep, Wrinkles
Lemon*	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Anxiety, Cleansing, Depression, Disinfectant, Grease, Heartburn, Stress
Lemongrass	🟢	🟣	🟣	🟢	🟢	🟢	🟢	🟣	🟢	Air Purification, Cholesterol, Cramps, Joint Injuries, Tissue Repair
Lime*	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Bacterial Infections, Fever, Gum/Grease Removal, Skin
Marjoram	🟢	🟣	🔴	🟢	🟢	🟣	🟢	🟣	🔴	Arthritis, Cramps, Muscle Ache/Spasm, Neuralgia, Whiplash
Melaleuca	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Acne, Antifungal, Boils, Cold Sores, Disinfectant, Sore Throat, Wounds
Melissa	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Antiviral, Calming, Cold Sores, Viral Infection
Myrrh	🟢	🟢	🟣	🟢	🟢	🟣	🟢	🟣	🟣	Allergies (Skin), Gum Disease, Infection, Skin Wounds/Problems
Orange*	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Anxiety, Digestion, Fear, Insomnia, Menopause, Nervousness, Uplifting
Oregano	🔴	🔴	🔴	🟢	🟢	🟣	🟣	🔴	🔴	Antifungal, Candida, Muscle Aches, Parasites, MRSA, Warts
Patchouli	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Diuretic, Fever, Mosquito Repellent, Termite Repellent
Peppermint	🟣	🟣	🟣	🟢	🟢	🟢	🟢	🟣	🟣	Alertness, Allergies, Cooling, Headache, Indigestion, Nausea, Sinusitis

Essential Oils & Blends Quick Usage Chart

Single Oil Name	Topical			Aromatic			Internal			Common Uses (see the Single Oils chapter for additional uses)
	Adult	Child/Sensitive	Pregnancy	Adult	Child	Pregnancy	Adult	Child (6+)	Pregnancy	
Roman Chamomile	🟢	🟣	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Allergies, Diaper Rash, Dry Skin, Insomnia, Neuritis, Shock, Stings
Rose	🟢	🟢	🟣	🟢	🟢	🟢	🟢	🟣	🟣	Aphrodisiac, Poison Ivy/Oak, Scarring (Prevention)
Rosemary	🟢	🟢	✕	🟢	🟢	✕	🟢	🟣	✕	Antioxidant, Arthritis, Diabetes, Flu, Headache, Memory, Sinusitis
Sandalwood	🟢	🟢	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Back Pain, Clarity, Laryngitis, Meditation, Rashes, Sunscreen, Yoga
Spearmint	🟣	🟣	🟣	🟢	🟢	🟢	🟢	🟣	🟣	Cooking, Indigestion
Thyme	🔴	🔴	✕	🟢	🟣	✕	🟣	🔴	✕	Antibacterial, Antifungal, Colds, Dermatitis, Respiratory Infections
Vetiver	🟢	🟢	🟣	🟢	🟢	🟣	🟢	🟣	🔴	ADD/ADHD, Balance, Termite Repellent, Vitiligo
White Fir	🟢	🟣	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Cleansing, Bronchitis, Bursitis, Energizing, Muscle Fatigue/Pain
Wintergreen	🟢	🟣	✕	🟢	🟢	✕	✕	✕	✕	Arthritic Pain, Bone Pain, Dandruff, Joint Pain/Inflammation,
Ylang Ylang	🟢	🟣	🟢	🟢	🟢	🟢	🟢	🟣	🟢	Calming, Crying, High Blood Pressure, Hyperpnea, Relaxing, Stress

Oil Blend Name	Topical			Aromatic			Internal			Common Uses (see the Oil Blends chapter for additional uses)
Anti-aging Blend	🟢	🟢	🟣	✕	✕	✕	✕	✕	✕	Aging, Chapped/Cracked Skin, Dry Skin, Revitalizing, Wrinkles
Calming Blend	🟢	🟢	🟢	🟢	🟢	🟢	✕	✕	✕	ADD/ADHD, Anxiety, Calming, Insomnia, Sedative, Stress, Tension
Cleansing Blend	🟢	🟣	🟢	🟢	🟢	🟢	✕	✕	✕	Air Pollution, Allergies, Boils, Deodorizing, Infection, Mildew, Stings
Cellular Complex	🟢	🟣	🔴	🟢	🟢	🟣	🟢	🟣	🔴	Aging, Antioxidant, Atherosclerosis, Cancer, Cellular Vitality, Tumors
Detoxification Blend*	🟢	🟣	🔴	🟢	🟢	🟣	🟢	🟣	🔴	Cleansing, Endocrine Support, Hormonal Balance, Tissue Support
Digestive Blend	🟢	🟢	🔴	🟢	🟢	🟣	🟢	🟣	🔴	Bloating, Cramps, Gastritis, Heartburn, Nausea, Parasites, Sinusitis
Focus Blend	🟢	🟣	🟣	🟢	🟢	🟢	✕	✕	✕	ADD/ADHD, Anxiety, Concentration, Focus, Hyperactive, Stress
Grounding Blend	🟢	🟢	🟢	🟢	🟢	🟢	✕	✕	✕	Anxiety, Back Pain, Balance, Depression, Energy, Mood Swings, Seizure
Headache Relief Blend	🟢	🟣	🟣	🟢	🟢	🟣	✕	✕	✕	Headaches, Migraines, Muscle Tension, Tension Headaches
Invigorating Blend*	🟢	🟣	🟢	🟢	🟢	🟢	✕	✕	✕	Calming, Depression, Eating Disorders, Mastitis, Sedative
Joyful Blend*	🟢	🟢	🟢	🟢	🟢	🟢	✕	✕	✕	Anxiety, Depression, Energizing, Grief/Sorrow, Stress, Uplifting
Massage Blend	🟢	🟢	🟢	✕	✕	✕	✕	✕	✕	Anxiety, Muscle Aches/Pain, Muscular Dystrophy, Relaxation, Tension
Metabolic Blend	🟢	🟣	🔴	🟢	🟢	🟣	🟢	🟣	🔴	Appetite Suppressant, Cellulite, Obesity, Weight Loss
Protective Blend	🟣	🔴	🔴	🟢	🟣	🟣	🟣	🔴	🔴	Air Pollution, Antibacterial, Antifungal, Antiviral, Cleansing, Disinfecting
Respiratory Blend	🟢	🟣	🟢	🟢	🟢	🟢	✕	✕	✕	Antiviral, Asthma, Congestion, Cough, Influenza, Pneumonia, Sinusitis
Repellent Blend	🟢	🟢	🟣	🟢	🟢	🟣	✕	✕	✕	Bug/Insect Repellent
Soothing Blend	🟢	🟣	🔴	✕	✕	✕	✕	✕	✕	Arthritis, Back Pain, Inflammation, Joint Pain, Muscle Aches/Pain, Tension
Topical Blend	🟢	🟣	🟣	✕	✕	✕	✕	✕	✕	Acne, Callouses, Dermatitis, Impetigo, Oily Skin
Women's Blend	🟢	🟢	🟢	🟢	🟢	🟢	✕	✕	✕	Hormonal Balance, Perfume
Women's Monthly Blend	🟢	🟣	🔴	🟢	🟢	🟣	✕	✕	✕	Hot Flashes, Hormones (Balancing), Menopause, Menstruation, PMS

🟢 Safe to use without dilution as directed.
🟣 Safe to use with moderate dilution.
🔴 Safe to use with heavier dilution—consult with a physician before using if pregnant or ill.

✕ Not a generally recommended use.
✸ Avoid sunlight for several hours after topical use.
✸✸ Avoid sunlight for 12–24 hours after topical use.

REDISCOVER

THE HEALING POWER OF ESSENTIAL OILS

The Therapeutic Use of Essential Oils

Plants are humanity's oldest medicines. Yet, in our modern world, many of these natural remedies have been replaced with mass-marketed, chemically engineered, man-made drugs that come with many serious side effects. Recently, however, science has been rediscovering the numerous powerful benefits found in natural aromatic plants, especially in the volatile oils—or essential oils—contained in these plants.

Pure, therapeuticc grade essential oils can offer a safe and effective alternative to medication, without unpleasant side effects or dangerous drug interactions. This unique guide can help you discover how essential oils can benefit your health and well being—naturally!

What's New in the Sixth Edition?

- Stunning new design with enhanced Single Oil and Oil Blends sections featuring a new "Quick Facts" box to make it simple to discover the basics about any oil.
- New section on emotions and essential oils.
- Information on seven additional essential oils.
- New research on even more amazing benefits of essential oils and their constituents.
- Updated with new essential oil-inspired products and information.

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